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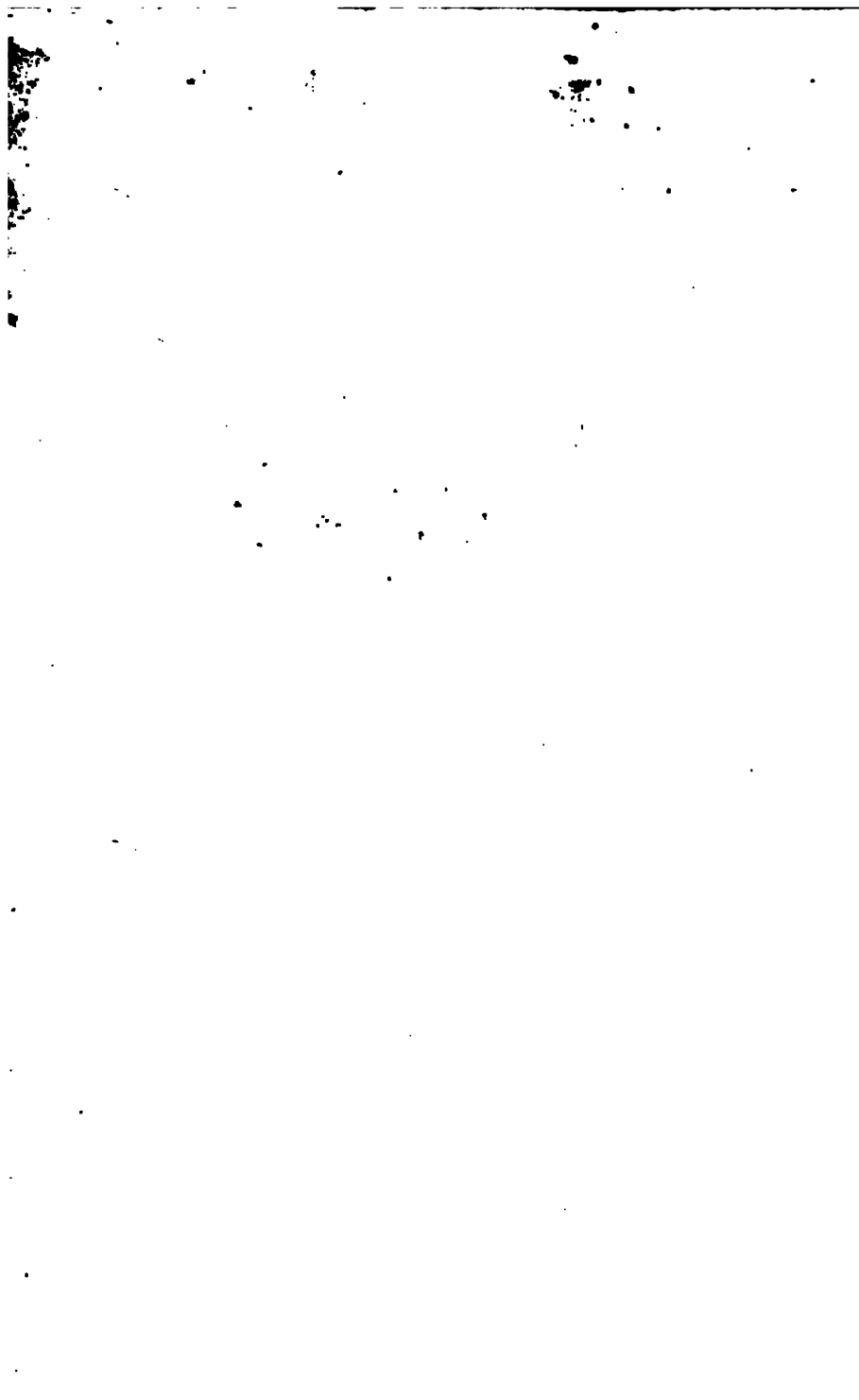
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BIRDS, FISHES, AND CETACEA
OF
BELFAST LOUGH.





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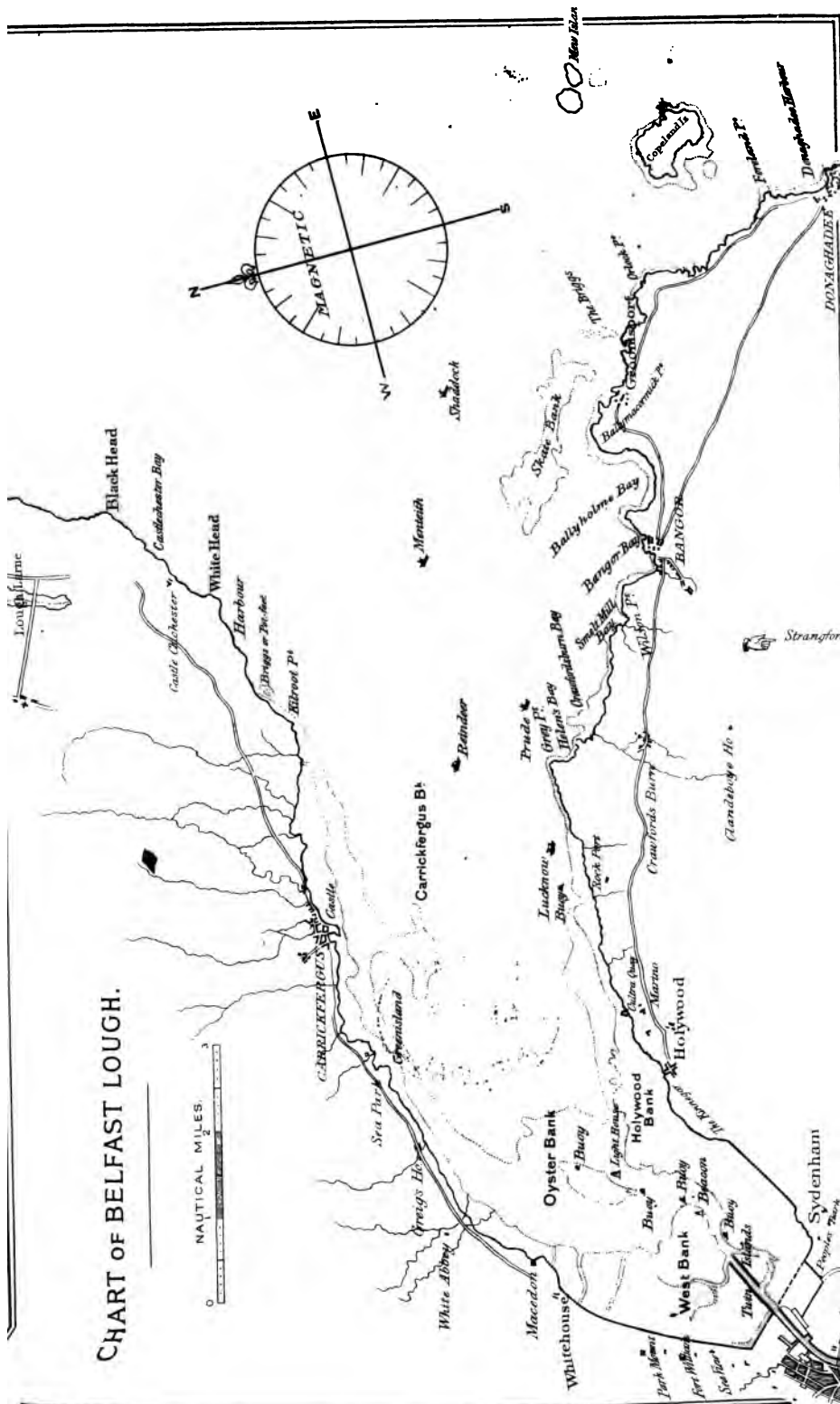
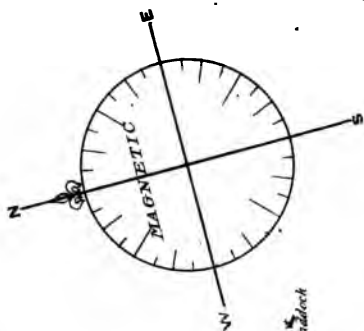
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NAUTICAL MILES.



THE
BIRDS, FISHES, AND CETACEA

COMMONLY FREQUENTING
BELFAST LOUGH.

BY
ROBERT LLOYD PATTERSON,
VICE-PRESIDENT OF THE BELFAST NATURAL HISTORY AND PHILOSOPHICAL SOCIETY;
PRESIDENT OF THE BELFAST CHAMBER OF COMMERCE.

"They that go down to the sea in ships, that do business in great waters; these see
the works of the Lord, and His wonders in the deep."—PSALM cvii.



London:
DAVID BOGUE, 3, ST. MARTIN'S PLACE, TRAFALGAR SQUARE;
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1880.

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To the Memory of

MY FATHER,

THE LATE ROBERT PATTERSON, F.R.S.,

This Book

IS MOST AFFECTIONATELY INSCRIBED.

P R E F A C E.

THE following pages contain some records of many years' observations on Sea Birds and Fishes, more especially such as are found commonly frequenting Belfast Lough.

For the guidance of those who are unacquainted with its peculiar characteristics, a Chart of the Lough is inserted at the beginning of the volume. Situated in the North-East of Ireland, it opens, with an entrance of between seven and eight statute miles wide, to the North Channel, which separates Ireland from Scotland; distant at the nearest points about fifteen miles from Fair Head in Antrim to the Mull of Cantyre, and about twenty-five miles from Donaghadee (Co. Down) to the nearest part of Wigtonshire.

The Lough terminates at an imaginary line drawn from Black Head (Co. Antrim) to Orlock Point (Co. Down); its length, from Belfast quays to this line, being nearly fourteen miles.

For some distance up from its entrance on the southern side, the shores are rocky, with occasional fine sweeps of sandy bays.

The northern shore, with the exception of the bold headlands, called respectively Whitehead and Blackhead, is generally more shelving. On both sides, towards the upper end of the Bay, for a distance of about four miles down from the town, the tide ebbs a great distance, half-a-mile to a mile from high-water mark ; with a mean rise and fall of nearly ten feet. The immense flats of banks and slob lands, which are thus twice a-day covered at flood and left bare at ebb tide, are the feeding grounds of multitudes of Swimming and Wading Birds, and combine with the geographical position of the Lough to render it a most suitable, as it certainly is a remarkable, resort of such birds, both in number and variety.

Adjacent to, but not connected with, Belfast Lough, on the north and south respectively, are the marine loughs of Larne and Strangford. Inland, to the west, beyond the line of the Antrim hills, lies Lough Neagh, the largest sheet of fresh water in these kingdoms.

Belfast Bay is thus favourably situated for receiving the visits of birds from these three neighbouring loughs ; and the proximity of Lough Neagh is sufficient to account for the not unfrequent occurrence, in the Bay, of Grebes and other birds that are more generally frequenters of fresh water.

The wide entrance of Belfast Lough, as compared with the narrow entrances of the two adjacent marine loughs named, gives a distinctive character to many of its feathered and finny inhabitants ; it being frequented

by the more essentially ocean species of birds and fishes, as well as the larger Cetaceans.

The greater portion of the matter in this volume was originally brought together in the form of papers, which I read at different times before the Belfast Natural History and Philosophical Society. These papers were prepared during the leisure afforded by quiet evenings in the country, as a pleasant relaxation after the active business life of the day ; and at the time they were first read, there was no intention of bringing them before the public in any other way.

The papers are more discursive than scientific, and are perhaps too local in their scope to be of much general interest ; but I have been advised by friends, who were kind enough to say that my "Notes" might interest a wider circle than the few members of the Society, to extend them somewhat, and to publish them collectively in their present form.

I have derived much interesting and valuable information from the published works of Yarrell, Thompson, Couch, Folkard, Gray, and many others, and have quoted freely from them. My object in doing so is to endeavour to add to the interest of otherwise too purely local notes, by putting within reach of the reader information as to the appearance in other places of some of the species mentioned ; many of the works quoted not being in every one's hands, and some of them now not readily accessible to all.

The omission of systematic arrangement is intentional. The Naturalist does not require it, and such scientific formalities have often a deterrent effect on the general reader, to whom it is my wish to endeavour to make the subject popular.

In conclusion, I beg to thank most sincerely all those named in the following pages, for opportunities of observation afforded, and for information furnished.

R. LLOYD PATTERSON.

CROFT HOUSE, HOLYWOOD,
Co. DOWN, *June*, 1880.

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BIRDS OF BELFAST LOUGH.

CHAPTER I.

INTRODUCTORY—CLASSIFICATION—SWIMMING BIRDS— GUILLEMOTS—RAZOR-BILLS—PUFFINS.

Some sought their food among the finny shoals,
Swift darting from the clouds, emerging soon
With slender captives glittering in their beaks.

MONTGOMERY.

HAVING for many years been in the habit of going out boating and fishing in our Bay, my attention became gradually drawn to the birds that came under notice in the course of these excursions.

The more attention that was directed to the subject, the more interesting did it become ; till, after a time, I began to take notes of the birds we saw, and occasionally shot ; and I now propose to reproduce portions of these notes, interspersed with extracts from the writings of some authorities on ornithology.

I may preface the subject by stating, for the guidance of any to whom it may be new, that naturalists have agreed in separating that division of the animal kingdom called Birds into five great orders, namely—

- 1st. The *Raptores*, or birds of prey, such as eagles, hawks, vultures, and owls.
- 2nd. The *Insessores*, or perching birds, such as crows, sparrows, linnets, starlings, robins, &c.
- 3rd. The *Rasores*, or scraping birds, such as partridges, common fowls, and pheasants.

- 4th. The *Grallatores*, or wading birds, such as storks, curlews, herons, sandlarks, plovers, and snipes.
- 3th. The *Natatores*, or swimming birds, such as geese, ducks, divers, sea-gulls, &c.

I am about to refer first to a few species of the last named order, the *Natatores*, or swimming birds; but, before proceeding further, may remark that it is interesting to notice by what gradual steps the waders merge into the swimmers. How in the Water-rail and the Moor-hen the toes are lengthened, so as to enable these birds to walk over floating aquatic plants and to swim; the Moor-hen, or Water-hen, as it is often called, being a pretty good swimmer, without being web-footed at all. Following these come the lobe-footed birds, such as the Coot and the Phalaropes, in which the long toes are further provided with membranes, almost amounting to a partial web, to assist them in swimming, till we finally arrive at the true swimmers, most of which are completely web-footed.

The swimming birds themselves are divided into five families, some of these being further sub-divided; but, not to trouble the reader with these minor distinctions, suffice it for our present purpose to name the principal ones, which are—

- 1st. The *Anatidæ*, geese, ducks, swans, wigeon, &c., containing about forty-five British species.
- 2nd. The *Colymbidæ*, or Divers, including the grebes, and containing eight British species.
- 3rd. The *Alcidæ*, or Auks, embracing the puffins and guillemots, containing also eight British species.
- 4th. The *Pelecanidæ*, the smallest family of all, having only three British species, the gannet and the cormorants.
- 5th. The *Laridæ*, or Gulls, including the terns, skuas, and petrels; about thirty-three British species.

These families are further sub-divided into above twenty genera, and these again into the individual species.

These divisions, quite necessary for the proper classification of the birds, are not arbitrary ones, but are the result of careful research into form and structure, external and internal.

I am not going to mention the birds or fishes that one may meet with in the Lough in any particular order, but simply take them as they come—a plan that I fear would not meet the approval of naturalists ; but my wish is to endeavour to popularise the subject by divesting it of scientific formalities.

Going out on the Lough, let us say in the month of August, we have not gone far till we begin to fall in with the Divers, Guillemots (*Uria Troile*), and Razor-bills, many of them having their young, like little balls of white and darkish brown, with them. Farther out, the Razor-bills and Guillemots are met with in much larger numbers, and they are wonderfully tame, often not diving till the boat is close on them. When the old bird does dive, the young one is left on the surface alone, in which case it frequently utters a shrill, plaintive cry, which is answered by a hoarser cry from the mother whenever she reappears on the surface. Mother and young then hasten towards one another, the old bird frequently giving the young one a herring fry, or other small fish, into its bill. It is wonderful sometimes to see the number of these young birds, and to fancy where they have all come from, and how such small, feeble, and apparently helpless things have been able to make their way so far. Once out of their nests on the rocky ledges of some sea cliffs, they never return to them, but spend night and day on the water.

Mr. Waterton, in an account of his visit to the rock bird-breeding localities about Flamborough Head, says the men

there assured him that when the young Guillemot gets to a certain size it manages to climb upon the back of the old bird, which conveys it down to the ocean; and, from his own observations there, he had no doubt of the correctness of this statement.

Mr. Robert Gray, in his *Birds of the West of Scotland*, a most charming book (Glasgow, 1871), speaks of the same thing as occurring at Ailsa Craig, where the parent birds have been observed carrying the half-fledged young, sometimes on their backs, and sometimes "by the hind neck, as a cat would do its kittens," down to the water.

The period at which the young birds appear in the Lough with their parents varies a good deal in different years. On this subject I have noted :—

20th July, 1878.—Saw many Guillemots and young.

In 1874, I saw young Guillemots and Razor-bills for the first time on 1st August. On the same day I saw a ringed Guillemot (*Uria lacrymans*), the only one I ever observed in this lough.

7th September, 1878.—Guillemots and Razor-bills very numerous to-day, and with them were many young birds. These were of such very different sizes as to lead me to wonder could there be two hatchings in the season? Some of the young birds seen to-day were as large as their parents, and others were quite little downy things.

7th October, 1879 (caught out in a fog crossing over from Fleetwood).—I saw, near the Copeland Islands, outside the Lough, a Guillemot and young, the latter quite small. I have seen the young as large in July and August. Now can this October young bird be of a first or only hatching? It seems very unlikely.

Some years ago these birds, as well as the Razor-bills, bred on the Gobbin cliffs, in Island Magee, Co. Antrim; but if they do so still, it certainly is not in anything

approaching the numbers in which I have frequently seen them in this lough, where both species, swimming together in large companies, might sometimes be counted by thousands in a day.

The principal breeding haunt for the Guillemots in large numbers hereabouts is Ailsa Craig, to which further reference will be made. Multitudes of the birds of Belfast Bay come from there in autumn, after the breeding season, migrating South as the winter advances.

They breed also in most suitable localities round the coast, but some individuals do not appear to leave this lough at all, for I have seen both it and the Razor-bill here every month in the year.

Some years, however, they become scarcer than others. In 1877, I observed that by the latter half of June all the Razor-bills and almost all the Guillemots had gone. Out boating three times in the last week of that month, I saw altogether only four or five of the latter, and not one of the former.

The change from winter to summer plumage does not occur simultaneously among these birds—the difference, I suppose, arising from age and sex.

20th March, 1875.—Most, but not all, of the few Guillemots and Razor-bills seen to-day were still in winter plumage. Some of them exhibited change, but one of the former was in full summer dress.

Again, 17th April, 1875.—Guillemots were numerous, and exhibited considerable variety of plumage—from winter to full summer.

These birds, if on land, can make almost no effort to escape; they seemingly cannot rise on wing from the land, and their legs are placed so far back that they can hardly walk, but push themselves on their breast along the ground, using both legs and wings for this purpose.

Arctic voyagers have recorded the enormous number of these birds and others of the family that are to be seen in Spitzbergen, Novaya Zemlya, and other Northern lands in summer. I was hardly, however, prepared to learn, as I do from Mr. Leslie's recent work on Professor Nordenskiöld's Arctic voyages (London, 1879), that Guillemots were still to be seen in Spitzbergen so late as the end of October (1872).

Mr. Lamont, in his *Yachting in the Arctic Seas* (London, 1876), says—"The Puffin, or Sea Parrot, and the Guillemot are the commonest in the list of migratory birds that breed in Novaya Zemlya—the latter in such numbers as to amount to a full half of the feathered inhabitants. A visit to a 'loomery,' as the whalers call the breeding cliffs of Guillemots, or Looms, is one of the sights of the Arctic regions. These birds sit in countless myriads, tier after tier, on the slight ledges afforded by the horizontal strata of the limestone cliffs. Endless rows of snowy breasts and black heads, with the regularity of soldiers standing on parade, are seen as they sit bolt upright on their single eggs, with their backs against the rocky precipice. Marvellous is the sight when a shot is fired from a boat beneath; then, it is no exaggeration to say, the air is darkened, and as each bird flies out and utters his peculiar cry there is a terrific Babel of sound. In the rush of the Guillemots leaving the cliffs, numbers of their eggs are dislodged and fall crashing to the foot of the precipice, while others are instantly pounced upon by the predatory Gulls, which incessantly hover overhead" (p. 105).

Nearer home, according to Mr. Gray, "immense numbers of Guillemots frequent the coasts of the mainland (of the West of Scotland) as well as the inner and outer group of islands; and, wherever suitable cliffs occur, they take up their quarters during summer, forming colonies numbering

in some particular places two or three hundred thousand birds. In the vicinity of these breeding haunts they literally blacken the surface of the sea, creating a sight alike interesting to the bird student and ordinary tourist."

Mr. Gray gives a very interesting account of a visit to Ailsa Craig, and of these and other birds seen there.

The BLACK GUILLEMOT (*Uria Grylle*) is not nearly so common as the other species alluded to. It is a much more wary bird than the common species, and on the approach of a boat it almost invariably seeks safety in flight—not in diving, like others of its family. I shot one of these birds on the first of May, a few years ago, in a very pretty and interesting intermediate plumage. It was a bird of the previous year.

I have since procured specimens in full summer, and one in the beautiful winter plumage.

The adult Black Guillemot, with its jet-black plumage all over, except the large perfectly white spot on each wing, black eyes, black bill, and vermilion-coloured legs, is a very funny-looking little fellow. I have never seen its young.

One summer, when out yachting, I observed on several occasions a solitary Black Guillemot in full plumage about the same place in the centre of the Bay, equidistant from Greypoint and Carrickfergus. From the first time I observed this bird to the last there was a period of about a month, during which I saw it several times.

I mention this circumstance now in connection with this species, but intend referring hereafter to the fact of single diving birds apparently frequenting the same place for a length of time together.

I have a good many notes now of the Black Guillemot.

March 20th, 1875.—Saw several, perhaps six or seven, of them, mostly in summer plumage and in pairs. Again,

on 17th April, saw five or six. On 20th May, 1876, none at all, although common Guillemots and Razor-bills were abundant.

This species seems to pair earlier than the common Guillemot.

21st May, 1879.—Crossing from Stranraer to Larne, I saw two pairs of Black Guillemots outside the entrance to Loch Ryan.

21st June, 1876.—Saw a solitary Black Guillemot in full summer plumage to-day. On 30th June, 1877, saw one similarly clad. 25th August, 1877, saw one immature Black Guillemot.

This interesting and handsome species is commoner in the Scotch isles than here. Both Mr. Gray and Dr. Saxby* speak in terms of admiration, I might almost say affection, of the Black Guillemot—the “Tystie,” as the latter author, who gives by far the fullest and best account of the species that I have seen, calls it. This is its local name in Shetland; it is very abundant in the Arctic regions in summer.

The RAZOR-BILL (*Alca Torda*) so closely resembles the common Guillemot in size, colour, habits, and haunts, as to require but little separate notice. It is often very abundant here. Speaking of it, Thompson says that it “was found in countless numbers on the northern shores of the Island of Rathlin.”

On 27th August, 1874, on the occasion of the excursion given by the then Mayor of Belfast, J. A. Henderson, Esq., J.P., to the British Association, in the steamer “Thomas Dugdale,” I saw immense numbers of these birds on the cliffs on the north side of Rathlin.

Mr. Thompson mentions its appearance far up the Bay

* *The Birds of Shetland*, by the late Dr. Saxby; Edinburgh, 1874.

of Belfast. On this subject I have a note that, on 25th March, 1871, I shot two of them near Holywood lighthouse. On the same day I saw what is a very unusual thing so far up the bay—two porpoises, and several Gannets fishing. In October I have seen the Razor-bill within a mile to a mile and a-half of the quays of the town; and on one occasion, in February, I saw one in the channel between the point of Thompson's Bank and the Twin Islands. One of the best specimens I have was shot in Ballyholme Bay early in May, an adult bird in full summer plumage.

I suppose it arises from differences of age the different times at which these and other birds undergo the change from winter to summer plumage. I have shot birds on the same day, some in winter and others in full summer dress.

The Razor-bill is less common in the West of Scotland and among the Isles than the Guillemot; here, in Belfast Lough, I would say it is quite as numerous as the other species, if not more so; and is so well known to every one that ever ventures upon the water as to require little notice at my hands now. It and the Guillemots are generally classed together by the fishermen here, and spoken of collectively, but only when on the wing, as "Cutties," a word the origin of which, in this connexion, I have no idea of, except it be the peculiar short, "bunty" appearance they present when flying—the word "cutty" being used in Scotland to signify short. Both species are commonly called "Puffins"—of course a misnomer, for the true Puffin is quite a distinct species, known locally to the fishermen and boatmen of this lough as "Ailsa cock."

On 20th July, 1878, I saw a great many birds: Razor-bills and Guillemots, many of them having their young

with them, and the young birds were a good size: numerous Gannets, a good many Puffins. The Gannets were busy fishing, and looked very beautiful, some of them flying in great wide sweeps quite near us. The "Cutties" were flying about in companies of up to fifteen or twenty. Never saw birds so numerous so early in the season.

On 21st May, 1879, crossing from Stranraer to Larne, saw very numerous flights of Razor-bills, of at first three or four, but then up to fifty or sixty, all flying in same direction, south to south-west.

In the Arctic regions these birds occur in vast numbers. In the Swedish Arctic Expedition of 1861, the voyagers passed between Dym Point and Cape Fanshawe the greatest auk-fell they had hitherto seen. "Black cliffs, 800 to 1000 feet high here for a stretch of about a mile and a-half, rise perpendicularly out of the sea, inhabited by millions of auks, which sit close packed together in all the clefts and crevices; and we were witnesses of the truth of the well-known statement, that the air is darkened by the number of fowl flying out of such a fell when a gun is fired, without it being possible to distinguish any diminution in consequence in the number of those that sit still, so quietly that some which had made their nests could be reached from the boat and taken with the hand. When we rowed forward, there were, besides, great flocks upon and between the ice, seeking their food."

The PUFFIN (*Fratercula Arctica*) is by no means so common in Belfast Lough as either the Guillemots or Razor-bills, and, indeed, in several years I have not noticed it at all. Although boating every year more or less, I have no note of seeing the true Puffin from August, 1866, to the same month in 1871, and have the following note with regard to its appearance then:—

"9th August, 1871.—Out in the 'Amba' from Bangor, fishing mackerel (of which we caught 225, besides sixteen nowds, or grey gurnards). I shot two Puffins, and saw a great number of them—far more than I had ever seen in one day before. It is very remarkable that for the last few years, although I had been boating so much at all seasons of the year, I had not seen a single example of the Puffin, while I saw during this period thousands of Guillemots and Razor-bills. To-day the Puffin was nearly as numerous as either of the other species; but these, again, were not so numerous as is usual at this season. We did not see less than sixty or eighty Puffins to-day."

Some of the *Alcadæ* remain here all summer. On 13th June, 1874, I shot a solitary Puffin at the Blackhead.

This is a singular and impudent-looking bird. Its well-defined dark (almost black) and white plumage, rounded head, whitish cheeks, and huge bill, render its identity unmistakable.

My brother Richard told me that, crossing with some friends going to their shooting in Argyleshire, from Belfast to Campbeltown, on 10th August, 1873, he saw outside and near the Mull of Cantyre, and by Sanda Island, multitudes, estimated at many thousands, of these birds.

Thompson and other authors state that the young birds leave the nest regularly on or close to the 12th of August.

In a very interesting account of a visit to Horn Head, in Donegal, the breeding haunt of vast multitudes of almost all species of the *Natatores*, Mr. Thompson devotes considerable space to the Puffin. It deposits its single large egg in a rabbit burrow, if there are any available for the purpose; failing which, the birds excavate a burrow for

themselves, in which they hatch their young, the period of incubation lasting one month.

On 11th August, 1875, I was fortunate enough to be able to visit Horn Head, and there saw traces of the Puffin very numerous, although most of the birds themselves had gone. On the cliff faces, wherever there happened to be a little slope of grassy earth, it was completely honeycombed by the burrows of the Puffins.

Yarrel and Selby both speak of their burrowing. The former author says :—"Rabbit warrens are not unfrequent on the coast, and where this is the case the Puffins often contend with the rabbits for the possession of some of the burrows."

Mr. Selby remarks :—"Many Puffins resort to the Fern Islands, selecting such as are covered with a stratum of vegetable mould, and here they dig their own burrows, from there not being any rabbits to dispossess upon the particular islets they frequent. They commence this operation about the first week in May, and the hole is generally excavated to the depth of three feet, often in a curving direction, and occasionally with two entrances. When engaged in digging, which is principally performed by the males, they are sometimes so intent upon their work as to admit of being taken in the hand, and the same may be done during incubation." Mr. Selby goes on to say that he has taken them at this time by thrusting his arm down the burrow and seizing them on the nest, though at the risk of a severe bite from the powerful and sharp bill of the old bird.

A gentleman from Moravia, an Austrian province in the centre of Europe, who was with us in the "Amiba" on the occasion lately referred to, would fully endorse this statement of Mr. Selby's as to the biting powers of the Puffin. One of the specimens procured that day was only

wounded; and, being caught by the punt, we handed it up into the yacht to the Austrian, whose loud cries, when it fastened on him like a vice, produced, I am bound to admit, more laughter than sympathy, and whose marked fingers will certainly be to him a lasting remembrance of the only day's mackerel-fishing he ever had in his life.

Mr. Gray speaks of the Puffin as being "perhaps the most abundant species of sea-fowl to be met with in the West of Scotland, some of the breeding places being literally overstocked with it." Among many others, he mentions St. Kilda as one station that is frequented by "countless numbers;" and he then speaks of "Ailsa Craig, which may be said to rank next to Mingalay, Berneray, and St. Kilda as a crowded bird-hive." He has on various occasions seen flights of Puffins there that outnumbered all calculation.

Mr. Folkard, in the *Wild Fowler* (London, 1864, second edition), is my authority for the following:—

"A singular method of fowling is used in Hirta (that is, St. Kilda), which is chiefly performed by females, with the assistance of dogs specially trained to the pursuit. The only birds they capture in the manner about to be described are Puffins, which burrow under ground with their beaks, and there deposit and hatch their eggs.

"The maids of Hirta make early morning excursions on the beach, attended by a dog, which hunts the holes at the foot of the rocks and about the shore. Some of these dogs are so well trained that they never pass a hole containing a Puffin's nest but they smell it out, and capture the old bird without killing it or breaking the eggs. In the cold weather, when the birds sit closely huddled together in large numbers in the deep holes and clefts of the rocks, on one of the little dogs being sent in, it seizes the first bird by its wing, and proceeds to drag it

out. The bird, to save itself from persecution, lays hold with its powerful beak of the wing of another, which, to save itself, seizes the next; this, in like manner, clings to its nearest neighbour, and so on, the dog continuing to drag them out steadily. In this way a whole string of Puffins falls into the hands of the fowler, as every bird, from first to last, grasps the one nearest to it, and so all are dragged out one after another, as if linked together. Thus the wife or daughter of a family in the short time of an hour or less secures sufficient provision to supply for one day or more all the inmates of the household. The family subsists on the eggs of the birds during the egg season, and their flesh at others; the dog faring sumptuously on the bones. Every family throughout the island has one at least of these little fowling dogs. The breed of the animal is simply a mixture of the terrier and water-spaniel, and is sometimes so regularly trained to its duties that it is sent unattended in search of Puffins, when it goes about its business with the same sagacity as if its young mistress accompanied it. On a dog being sent on an errand of this kind, it generally returns in a few minutes with a live Puffin in its mouth; then, if required, it is sent on a second and third excursion, and so on until sufficient are caught for the day's subsistence. The feathers and down of these birds are of great use and value, both for domestic comforts and as an article of commerce."*

Other localities are mentioned where this method of fowling is also practised.

On a subject of this kind, however, I turn with pleasure to Mr. Gray, whose remarks, based on personal observa-

* In 1876, Mr. Sands calculated that over 89,000 Puffins were killed in St. Kilda. At the Faroe Islands the number annually killed was estimated at 235,000. Another authority mentions 18,000 to 20,000 eggs being brought in of a morning.—*St. Kilda*, by Seton; London, 1878.

tion, carry all the more weight. Speaking of the Puffin at Ailsa Craig, he says—"Its favourite abode there is a mass of fallen rocks, lying at the base of the cliffs. . . . These rough and angular blocks, which are being constantly added to by masses falling from the upper ridges, form a highly curious nursery; and one may imagine the singular spectacle afforded by a legion of Puffins pouring out of their holes when a few tons of trap happen to fall upon their territories.

"On the upper slopes of the Craig very large numbers are also found breeding in burrows of their own making, which resemble rabbit-holes. From these strongholds it is almost impossible to dislodge them, except by a dog trained for the work. On one occasion . . . I accompanied the keeper, who owned a dog of this kind, to a Puffin warren near the summit of the island, and I was greatly diverted at seeing the little fellow, after having pushed his way along the dark passages, shuffle out of a burrow with half-a-dozen Puffins dangling from various parts of his body. Like a bull-dog, an angry Puffin never thinks of quitting its hold—a habit which makes the shaggy coat of a Skye-terrier extremely serviceable as a bait."

The tacksman of Ailsa Craig on one occasion (in 1826) "undertook, for a wager, to kill eighty dozen Puffins with a pole in one day (striking them down as they flew past him), and actually accomplished the feat."

In the *Cruise of the Kate*, by Middleton (London, 1870), he speaks of the Puffin breeding in vast numbers on Skomer Island, off the coast of Pembrokeshire, and of the Guillemots, Kittiwakes, and Oyster-catchers frequenting the headland called the "Wick" in that island in "countless thousands."

The Puffins, he says, are at continual war with the

rabbits, and are, particularly since the passing of the Sea-birds Preservation Act, having decidedly the best of it, they increasing and the rabbits diminishing in numbers.

In his *Cruise of the Betsy*, Hugh Miller speaks of this bird in a very different locality—namely, the Island of Eigg, one of the “small isles” of the inner Hebrides lying between Mull and Skye. “The Puffin,” he says, “a comparatively rare bird in the inner Hebrides, builds in great numbers in the continuous line of precipice which sweeps round the Bay of Luig.”

He found a curious tradition about this bird, which he calls an “apocryphal piece of the natural history of the Puffin,” current among the inhabitants of this island. “The Puffin,” he continues, “feeds its young, say the islanders, on an oily scum of the sea, which renders it such an unwieldy mass of fat, that about the time when it should be beginning to fly, it becomes unable to get out of its hole. The parent bird, not in the least puzzled, however, treats the case medicinally, and, like mothers of another two-legged genus, who, when their daughters get over-stout, put them through a course of reducing acids to bring them down, feeds it on sorrel leaves for several days together, till, like a boxer under training, it gets thinned to the proper weight, and becomes not only able to get out of its cell, but also to employ its wings.” This supposed feeding on sorrel leaves is referred to by Thompson, p. 223, and others also.

In June, 1873, I was fortunate enough to visit these waters, and although we coasted close along the shore of Eigg, I only saw two or three birds of this species altogether, and but few of the commoner species first mentioned.

Dr. Saxby, who, like Mr. Gray, speaks from personal

observation, gives a most interesting and graphic description of a day's bird-nesting, principally after Puffins, among the crags of Shetland.

The other recorded and well-known breeding haunts of this peculiar little bird are pretty numerous, and do not require detailed mention, being found at Tory Island, the Skelligs, and numerous other places in Ireland, and also in many suitable localities in England and Scotland.

CHAPTER II.

CORMORANTS AND GANNETS.

Fast as the Cormorant could skim,
The swimmer plied each active limb.

Lady of the Lake.

SITTING stock-still on some of the parts of the wreck of the "City of Lucknow," off Rockport; on the (lately removed) floating breakwater in Helen's Bay; on the perch to mark the dangerous reef of rocks known as the North Briggs, sometimes called the "Pot Feet," near Whitehead; or on any other rocks, buoys, or perches in the Lough, large dark-coloured birds might often be observed. In summer, when they, in common with most of the *Natatores*, depart to their breeding haunts, they are but seldom seen; some individuals, however, remain the whole summer. I refer to the Cormorants, both the common (*Phalacrocorax Carbo*) and the green (*Phalacrocorax Cristatus*) or crested species—a smaller bird than the one first named. These birds become more numerous in autumn; and, as winter approaches and advances, they appear to come farther and farther up the Lough; till, in mid-winter—I mean December, January, and February—I have seen them, and on one occasion shot one, within less than a mile of the quays of the town. A few years ago they were but seldom seen in any numbers near Holywood; but some posts having been put up to mark the channel leading up to the pier, the Cormorants found these apparently most convenient resting-places; for, on stormy mornings, I sometimes counted not less than six or eight individuals

perched on them. The posts have since disappeared again, and with them the birds also.

The COMMON CORMORANT is found in great variety of plumage, according to age, sex, and season. Among several individuals that I have shot at different seasons of the year in this lough, I have retained four for my own collection. One, a male bird, shot on 12th October, 1871, off Rockport, is of a jetty shining black all over, not a white or lightish-coloured feather in it; another, shot on 3rd March, 1869, off Macedon Point, is a female, and in very beautiful and perfect plumage. The entire body, breast and back shining metallic black, with a greenish shimmer through it; the triangular white mark on the thigh, or "the watch that it carries under the wing," as it is sometimes called by the fowlers, quite perfect and well defined; the upper part of the head is provided with longish, hair-like, white feathers. The back of the head and the neck are ornamented with a fine crest of black feathers, and its *toute ensemble* is that of a bold, handsome bird. My third specimen was shot about half-a-mile off Cultra quay, on 19th February, 1873. This was the largest Cormorant I ever saw, and weighed 8 lbs., which Col. Montagu states to have been the weight of the largest Cormorant he ever saw. Mr. Thompson speaks of 7 lbs. 6 ozs. as the weight of a very large one, so that my 8-lb. bird is of quite an unusual size. It was a bird of immense strength and power, and struggled hard to escape, exerting its powers of diving, which in all the family are really wonderful, to an extraordinary extent. However, finally, a long shot from my No. 8 breech-loader laid him low, and the prize was secured. The breast and lower part of the body of this bird are light-coloured, varying from an olive-green on the neck to a lighter colour on the breast, and nearly pure white below; its wings, sides, neck,

and back all jet-black, with the least appearance of the white thigh-mark just beginning to show in a little "tick" here and there through the black feathers. Examples that I procured on two occasions in the month of December (1870 and '72) were similar in plumage to the one last described, except for the white thigh-mark beginning to show, which clearly indicated the advance of the season. My fourth specimen, shot in Ballyholme Bay on 28th August, 1878, on which day I saw ten in a flock together, is in very perfect plumage—a shining greenish black nearly all over, with a very small portion of the under surface, near the legs, of a lighter colour. Its feathers were very perfect, not frayed at the ends of the wings and tail as they often are; and I take it to be a young bird of the year.

On 19th August, 1876, five Cormorants flew over Clifton Terrace, Bangor, within easy stone's-throw. Of these, three were all black; two had some white below.

On 14th December, 1878, from the window of my office in Corporation Street, Belfast, I saw two Cormorants flying overhead. They were not very high—sufficiently near to see their whitish under-surface. Severe frost was prevailing at the time.

M'Skimmin, in his *History of Carrickfergus*, published in 1811, remarks of Cormorants (p. 202)—"Those here set off almost every morning for Lough Neagh, and return again same evening. A few years ago one of them was shot just as he arrived here, and in his crop was found fourteen pullans." "Sufficient evidence certainly," adds Thompson, "that this individual had been fishing there, for nowhere else, nearer than Lough Erne, could this species of fish have been obtained."

Mr. Thompson continues—"A scientific friend visiting Massareene Deerpark, on the borders of Lough Neagh, on the 3rd December, 1847, was attracted by the singular

appearance of about one hundred Cormorants perched on trees (probably thirty feet in height) on a low wooded island of the lake, where they remained for two hours, or so long as he had an opportunity of observing them." Their black, repulsive appearance on such occasions reminds one of the aptness of Milton's simile—

"Thence up he flew, and on the tree of life,
The middle tree, and highest there that grew,
Sat like a Cormorant."

Paradise Lost, Book IV.

"The country people about Lough Neagh believe that these birds daily visit the sea, and that they would die if they did not get a drink of salt water within the twenty-four hours."

The same author, Thompson, also mentions having seen them in the west and south of Ireland, and at the Lakes of Killarney. Of their appearance at Killarney I have noted that in August, 1871, I saw eleven individuals sitting on the small points of rock that rise out of the water in front of Innisfallen Island, looking towards the Victoria Hotel. This group, to judge from the difference of size they exhibited, seemed to have examples of both species among its numbers; but I could not speak with certainty on this point, neither was I near enough to be able to remark anything about their plumage. Passing, in a boat, the crag known at Killarney as "The Eagle's Nest," a Cormorant flew by, high in air.

"Dere's de Aigle, sorr," said one of the boatmen.

"Yes," I replied; "I suppose a Cormorant makes a very good Eagle for many of your visitors;" whereat he and all the others laughed heartily.

I again quote Mr. Thompson, who says (of the common Cormorant):—"The most favourable opportunity I have had of observing it is alluded to in a general description of

the birds of Horn Head (p. 225):—The gamekeeper there stated that he had seen salmon of from two to five pounds weight in their nests; but this must be over-estimated. They are considered so destructive to this valuable fish that a reward of fourpence is paid to him for the head of every Cormorant of this species he can procure."

In M'Skimmin's *Carrickfergus* it is stated that "rewards were formerly paid at Assize for destroying these birds. In the records of the County Antrim, in 1729, mention is made of a person in Island Magee who had killed ninety-six Cormorants in one season."

I never saw Cormorants in such numbers anywhere as at Horn Head, on the occasion of my visit there already mentioned, and which shall be further more particularly alluded to. Both species were abundant; the crested most so. They sat on low rocks in groups of from eight or ten up to sixty or eighty individuals. Some were swimming about, and others on their nests, with their young, within the caves. All were quite tame. On the following day, 12th August, we saw some of the common species (although hereabouts it is much less common than the crested) on and about the headland called Marble Hill. Some of these birds were sitting on nests with eggs in them.

When the plumage of a Cormorant has become quite saturated with water, from long-continued diving, the bird is frequently seen to stand on a post or other projection, with its wings outspread to dry, often fanning the wings rapidly as if to assist the drying process. Its attitude and appearance on these occasions are really most ludicrous. Sir Wm. Jardine, Thompson, and other authors allude to this peculiarity; Mr. Thompson mentioning, on one occasion, at Strangford Lough, seeing fifteen of them, after a very heavy shower of rain, standing together in a line, apparently on the water, though in reality on a

rock which did not rise to the surface, with their wings outstretched to dry; inferring that a wetting by rain induces the expansion of the wings as well as a wetting by sea water.

On this point I have several notes, but shall only quote one:—

20th March, 1875.—On the perch at the North Briggs there were three Cormorants, and on an adjacent rock one—two crested and two common; the latter showed “the watch under the wing” quite distinctly. Neither of the former exhibited any crest; but one of them, spreading his wings to dry, with his face to the wind and his back to the sun, looked a beautiful, shining, metallic dark green, quite dazzling as he fanned his wings quickly in the bright sunlight.

Cormorants nidified in most suitable localities round the coast, but have been driven away from many of their former haunts by persecution. I don't think any now build in the Gobbin Cliffs, or at Downhill (Co. Derry), both of which places they formerly frequented. In his *Birds of the Humber District* (London, 1871), Mr. John Cordeaux says:—“The nearest breeding station to the Humber is now, so far as I am aware, that on the North Wamses, on the Farn Islands, where it nests plentifully.”

On 25th August, 1875, I went from Scarborough by steamer to visit “High Whitby's cloistered pile,” and on the cliffs near Robin Hood's Bay observed what I believed to be, and noted as, “several nests of Cormorants, with the birds sitting on and near them.”

This is much nearer the Humber than the station mentioned by Mr. Cordeaux, who says (of the Cormorant) that “it formerly nested on the rocks at Flamborough, but was finally driven away by the persecution of excursionists.” Of course I *may* have been mistaken

about the birds sitting on nests, although I don't think I was; as the distance was not great, and I had a good binocular with me. It is possible that, since the passing of the Sea Birds Preservation Act, the Cormorants may be re-occupying some former stations which they had been driven from a few years ago.

The numbers in which Cormorants may be found nesting in suitable places in these countries are considerable. Mr. Gray mentions a large breeding colony on Loch Moan, in Ayrshire, where, in 1867, a disappointed fishing party (the Cormorants having destroyed all the fish), out of revenge broke all the Cormorants' eggs they could find, to the number of more than a thousand.

Speaking further of the Cormorant, Mr. Gray mentions that "On the Ayrshire coast there are several breeding stations on the line of rocks overhanging the sea between Ballantrae and the entrance to Loch Ryan. The colonies (of birds) which occupy these nesting-places are very conspicuous when viewed from the sea. When cruising past, I have been amused with their odd gestures. . . . On these occasions, indeed, they display so much fear, mingled with curiosity, that it quite upsets one's gravity to look at them. Our skipper uttered more than his own sentiments one day when he turned round and said, 'I'd give a shilling to hear them beggars speak.'"

Mr. Gray says, in a foot-note, in reference to the last remark, that the Rev. Mr. Macaulay, "the minister of Ardnamurchan, is reported to have said the same of the St. Kilda Puffins; but, on enquiring at the skipper whether he had read that gentleman's writings, he said he 'was only partly familiar with his *Lies* of Ancient Rome;' from which I inferred that he had but a confused knowledge of the two Macaulays."

Large, however, as the numbers mentioned by Mr. Gray

in Scotland seem, they sink into absolute insignificance when compared with the numbers of Cormorants found in some stations abroad. Professor Cunningham, in his *Natural History of the Strait of Magellan* (Edinburgh, 1871), says of a colony at Santa Magdalena that "the birds were there congregated in their nests literally in thousands, forming a dense black mass; . . . and, on being disturbed, rose into the air in a cloud, . . . and almost concealing the heavens from view."—p. 271.

Again, on Quartermaster Island, he found the Cormorants, if possible, more numerous than on their visit in 1867; and, on being disturbed, they rose into the air in thousands, raising a thick cloud of dust which had a most powerful odour of guano.—p. 306. These birds did not belong to either of our native species.

Cormorants are gifted with a rather high order of intelligence, and are easily reconciled to captivity. Instances are on record of their becoming domesticated; not only that, but growing quite attached to their masters, following them about wherever they went. Montagu speaks of one that became so tame and attached as never to seem happy except when permitted to remain by the side of its owner.

Dr. Saxby, in an interesting account of a tame bird of the common species, commences with the remark that it "is very easily domesticated, and, when treated with kindness, will become exceedingly docile, exhibiting a very high degree of intelligence, and an amount of affection scarcely to be expected from a bird which, in its wild state, is remarkable for its extreme shyness of man." This bird was very voracious, and on one occasion ate five starlings; on another, for a single meal, he ate two buntings, a twite, a sparrow, two snow buntings, and a ringed plover," and even then he followed Dr. Saxby for

more. When two years old, this bird began to perch on the roof of the house, and thence fly down to the voe, or strait, to procure his own meals, but never showed any desire to escape; on the contrary, he became more and more attached to his human friends. The kitchen fire was his great delight. Once he attacked a living duck, and even succeeded in swallowing the head and part of the neck before a rescue could be effected. He was finally, when about completing his third year, and apparently approaching perfection, unfortunately killed by an old dog.

Cormorants were formerly trained to catch fish and bring them to hand, a "cast" of Cormorants being spoken of in the same sense as a "cast" of hawks. Pennant is my authority for stating that fishing with trained Cormorants was a regularly recognised sport in England in the time of Charles the First, mention being made of a Mr. Wood who was "Master of the Corvorants" to that monarch. In China this practice is followed to a very large extent even at the present day; and that not for sport, but for profit.

Sir George Staunton, in his account of his embassy to China, describes the place where the "Luetze," a species of Cormorant, is bred, and trained to fish. He speaks of a large lake, on which there are *thousands* of small boats and rafts, built for, and occupied entirely in, this fishery, each boat having a crew of two men, and being supplied with ten or a dozen Cormorants. These birds are so well trained as not to require any ring or strap round the throat to prevent them swallowing the fish they capture, which they bring at once to their owners; nor are they secured or fastened in any way to prevent their escape.

More recently, in Mrs. Brassey's *Voyage of the Sunbeam* (London, 1878), it is said—"At Foo-chow Cormorant-

fishing may be seen to great perfection, and it is said to be a very amusing sight."

Attempts have been made at various times to reintroduce Cormorant-fishing into this country. Twenty or thirty years ago, some tame birds were brought over from Holland, where they had been trained by a person who had seen the use made of them in the China seas. A ring was placed round their necks, which prevented their swallowing any but very small fish ; and it is said that the rapidity and activity of their movements under water in pursuit of fish could be compared to nothing so appropriate as a swallow darting after a fly.

The common Cormorant has a wonderful development of swallowing capacity. Mr. Sheals, bird preserver, of Corporation Street, Belfast, to whom I am frequently indebted for drawing my attention to objects of interest, showed me on one occasion a full-sized sea-bream (*Pagellus Centrodontus*), of, I should say, between two and three pounds weight, which he had taken from the stomach of an ordinary-sized common Cormorant that had been sent to him to stuff.

A few years since, I read in the *Field* newspaper a most interesting series of papers describing the revival then, near London, of the ancient British sports of hawking, or falconry, and fishing with Cormorants ; but I have not heard of its continuance.

Mr. Glennon, of Dublin, published the following note in the *Dublin Penny Journal* many years ago :—

"Several years ago I took a pair of these birds from a nest among the rocks of Howth, and kept them for nearly two years, by which time they had attained their full growth. They were pleasant pets enough, unless when pressed by hunger, but then they became most outrageous, and screamed most violently ; when satisfied with food

they slept, roosting on a large stone trough placed for holding water. But woe to the man or beast that attempted to approach them when hungry. It happened once that a gentleman's servant went to look at them while in this state. He wore a pair of red plush breeches that immediately caught the attention of the birds, which I had been in the habit of feeding with livers and lights. The consequence was, they made such a furious charge that I had to run to his assistance with a stick, and, even so, did not beat them off without difficulty. Their attack on dogs, cats, and poultry, if unprotected, was always fatal. They fought at once with their bills, wings, and claws, screaming frightfully all the time. In fact, the cause of my parting with them was their having destroyed a fine Spanish pointer. He had incautiously strayed into the place where I kept them, and they immediately flew and attacked him in front and rear. His loud howlings brought me to his aid. I was astonished to find they had got him down, and, before I could rescue him from their fury, they had greatly injured him in one of his shoulders, so much so, that he afterwards died of the wound."

The virtues of the common and green Cormorants as food are not much enhanced by the note from the late Mr. G. Mathews—"That they were both eaten by the Norwegian sailors *when they had nothing else.*" In this connection I may say that I have often wondered at reading of old customs in England of such birds as Cormorants and Herons being always produced at great feasts as delicacies. Herons must have been bad and rank enough, but Cormorants surely far worse. Even for years after they are stuffed they retain a strong smell, like a mixture of musk and ammonia; so I can fancy the correctness of Kingsley's description of "squab pies," at a great Cornish feast in the eleventh century. "Fat," he

says, "was the feasting and loud was the harping in the halls of Alef, King of Gweek. Savoury was the smell of fried pilchard and hake ; more savoury still that of roast porpoise ; most savoury of all that of fifty huge squab pies, built up of layers of apples, bacon, onions, and mutton, and at the bottom of each a squab or young Cormorant, which diffused both through the pie and through the ambient air a delicate odour of mingled guano and polecat."—*Hereward the Wake*.

The notices of the attacks of Cormorants on animals, birds, and even on man, mentioned by different authors, would not lead one to expect much display of affection from them ; yet Yarrell says—"Sir Robert Shafto Adair told me that a pair of Cormorants took to and brought up a nest of young ravens, the natural parents of which had both been destroyed. The gamekeeper was desired to watch the proceedings, and reported that the Cormorants brought a constant supply of fish."

Thompson has mentioned a flock of above one hundred having been seen on one occasion in Belfast Bay. He mentions other occasions when flocks of from fifteen to seventeen were seen, and I think they must have been more numerous here then than now, as the largest number that I have noted as having been seen here on any one occasion was seventeen, and this was during a snowstorm, on 25th February, 1873.

I have dwelt thus at length on the common Cormorant, as it is a bird that may very frequently be seen round our coasts, and a little attention to its habits will well repay the observer with interest for his trouble. They are bold, powerful birds. Their strength, powers of endurance, cunning when wounded, and tenacity of life, are extraordinary, and their diving powers, although perhaps equalled by some, are only surpassed, in my experience, by one

species of the true divers, the Great Northern, to be noticed hereafter.

The GREEN or CRESTED CORMORANT is a rarer bird than the other in some places, but commoner in others, as already mentioned. It is of a smaller size. I have seen (on 10th March, 1873) nine of them sitting together on the floating breakwater in Helen's Bay. When fired at, these birds fall like plummets instantaneously into the water; and I have seen half-a-dozen of them fall, plunge, and disappear simultaneously, and afterwards emerge at intervals of time and space all round you in a most puzzling way, keeping their bodies submerged, and showing nothing but the neck and small fine head above water. In diving they are quite as expert as their larger congeners, but not so powerful, and do not remain so long under water; but when they do rise to the surface, they present a much smaller mark than the other species.

I suppose the following lines apply to both species :—

“The Cormorant then comes (by his devouring kind),
Which, flying o'er the fen, immediately doth find
The fleet best stor'd of fish, when from his wings at full,
As though he shot himself into the thicken'd skull,
He under water goes, and so the shoal pursues,
Which into creeks do fly, when quickly he doth choose
The fin that likes him best, and rising, flying feeds.”

DRAYTON'S *Poly-Olbion*, Song Twenty-fifth.

The GANNET (*Sula Alba*).—I shall now notice the Gannet, or, as it is called by some, the Solan Goose; and a most interesting bird it is. To most of us the Gannet is at least known, and to many it is familiar.

According to Thompson and other authorities it has only one breeding haunt in Ireland—one of the Skellig islands, off the coast of Kerry. Their number here was estimated at 500 pairs. Mr. J. F. Townsend wrote to Mr.

Thompson that these birds also frequented the Stags of Broadhaven, huge insulated rocks, "towering over the ocean at a considerable distance from the shore" (the coast of Mayo). Visiting these rocks one year in the month of July, he mentions having seen "hundreds of young Gannets and vast numbers of old ones;" and he added, "There cannot be the least doubt that the Gannet breeds at Broadhaven;" but this statement lacks confirmation. According to both Yarrell and Thompson, Lundy Island, in the Bristol Channel, is their only breeding station in England, both authors mentioning four such stations in Scotland.

Ailsa Craig, in the Clyde; the Bass Rock, in the Frith of Forth; and St. Kilda, out in the Atlantic Ocean, are well-known haunts of the Gannet, and that, too, in very large numbers. The two first-named localities are comparatively easy of access, and have been frequently visited by naturalists; the latter, being difficult of access, is seldom visited. Some accounts of visits to this remarkable rock, the habits of its few inhabitants, and the important part that the Gannet plays in their domestic economy, are very interesting. To the above-named localities Mr. Yarrell adds "Souliskerry;" and, on the authority of M'Culloch, the author of a description of the Western Isles, Mr. Thompson mentions "Soulisker"—two different names, and neither of them perhaps quite correct, for the same place. The place which I suppose to be meant is pronounced "Suliskere," but spelt "Sula Sgeir"—"Sula" meaning gannet, and "Sgeir" rock—the "Gannet's Rock," a most appropriate name, as I shall presently show. This rock is situated in the Atlantic Ocean, about thirty-five miles north of the Butt of Lewis, as the northern extremity of that island is called. The fifth locality frequented by these birds, and that, too, in large numbers, is the "Stack,"

a lofty, isolated rock in the Atlantic Ocean, about thirty miles north of Cape Wrath in Sutherlandshire, the north-western point of Scotland. Sula Sgeir and the Stack are uninhabited by man.

The similarity of name seems to have led to a little confusion here. Mr. R. Gray speaks of the "Stack of Suleskerry," which is probably the "Stack" named to me by Mr. M'Donald; and he (Mr. Gray) also mentions "Suleskeir," which is probably the "Sula Sgeir" which Mr. M'Donald spoke of. The latter, Mr. Gray says, is marked on most maps as North Barra.

In the course of a very delightful trip to the Hebrides, which the kindness of my friend Mr. Wm. Valentine enabled me to take part in in the summer of 1873, we visited, among other places, Stornoway, in Lewis, where I met Mr. M'Donald, Commander of H.M. cruiser "Vigilant," a tidy, able-looking schooner, then in the bay. Her duty is to look after some of the Scotch fisheries; and, as in this capacity her captain has unrivalled facilities for getting accurate information on such points, I may accept his statements about the Gannet, and also about the fisheries, as substantially correct.

To him, then, I am indebted for the following information. He first startled some of our company by the statement that there were spread nightly during the season, on the east coast of Scotland alone, a length of herring nets that would span the Atlantic twice; and from what I have since seen, taken from official returns, I am satisfied Mr. M'Donald's estimate on this point, startling as it may seem, is certainly under, rather than over, the mark. One of our party replied that, if that apparently exaggerated statement were true, the poor herrings had but a bad chance of escape; to which Mr. M'Donald replied, that *all* the herrings taken in *all* the Scotch

fisheries were as nothing—were as a mere drop in the ocean, as he expressed it—compared with the countless myriads of them that surround our coasts; and that the total catch of herrings, although when reduced to figures it seemed immense, was really never missed out of the numerous enormous shoals from which they are taken. “Talk about the herrings *we* are able to catch,” said he; “why, there is one *bird* in Scotch waters that *alone* captures and consumes more herrings than are taken in the *whole* Scotch fisheries.” “The Gannet?” I said. “Yes,” he replied, “the Gannet;” and then he gave me the following astounding figures, stating that he could vouch for their accuracy. He said there were five breeding stations of the Gannet in Scotland, or at least in Scotch waters; one in Ireland, and one in England. All of these have already been named.

Passing over the English and Irish stations as of but little account, he said estimates had been formed of the number of Gannets inhabiting the Scotch stations; and, having asked him to kindly mention the numbers, I took down from his dictation the following:—

* AILSA CRAIG	} is said to be inhabited and frequented by about	{ 12,000 Gannets. 12,000 " 50,000 " 50,000 " 300,000 "
* THE BASS ROCK		
ST. KILDA		
THE STACK		
SULA SGEIR		
Total, 		424,000

Each of these birds would consume, at least, a dozen herrings in the day, if it could get them; and, assuming that they must sometimes put up with short commons, and making allowance for the winter absence of most of

* Mr. Gray estimates the number at each of these stations at 20,000.

the birds, he estimated the daily average consumption at six herrings for each Gannet. The multiple of 6 on 424,000, multiplied again by 365 for the days of the year, produces 928,560,000 (nine hundred and twenty-eight million five hundred and sixty thousand) herrings; and this divided by 800, for the number of herrings in a barrel, leaves an equivalent of 1,160,700 (one million one hundred and sixty thousand seven hundred) barrels. The total take of 1872 being only 750,000 barrels, the quantity estimated to be captured by the birds was thus about one-half more than the total catch by man!

That the Gannet is capable of eating a dozen of herrings in the day I have not a shadow of a doubt. Mr. M'Donald said that, having frequently taken the young birds off their nests, and hand-fed them, they regularly consumed this quantity, and would have taken more if they had been given to them.

Thompson mentions, on the authority of the Rev. Mr. Black, of Annalong, that "one which happened to be caught asleep on the water, which is often the case during the mackerel season, was brought on board the boat, and tied by the leg to one of the thafts. To test its appetite some fish were thrown to it, when, without 'drawing breath,' it swallowed four full-grown mackerel, and would have disposed of more had not the fishermen thought it had had enough, at least for one meal." A friend of my own (Mr. Henry Atkinson), speaking of the same locality, told me of having himself captured Gannets in the same way, and when brought on board the boat, they have bolted as many as six whole mackerel as fast as they could be thrown to them.

In an old book (I forget its title) I found mention of a Gannet, gorged with food, unable to rise from the water, and so captured alive, vomiting up twenty-nine herrings!

Speaking of the Gannet in pursuit of its prey, Mr. Thompson says—"To witness the fishing of the Gannet is not only a beautiful but a grand spectacle, more so to my mind than even the swoop of the golden eagle or the peregrine falcon at its 'quarry,' in which amazing power of flight and keenness of vision are manifested. These chase their prey in their own element, the ambient air, and if the pursued touch but the surface of the water, it proves an altar of safety against the assailant; but the Gannet procures its food not only in another element, but, from a great elevation in the air, perceives it far beneath the surface of the sea, majestically poises itself, and, direct as a plummet, shoots into the deep with an impetus that forces a jet of water into the air, conspicuous from a great distance."

My friend Mr. A. O'D. Taylor has gracefully described these birds fishing, thus—

"Mark yonder Gannet's wheeling flight,
With black-tipped wings and bosom white;
He pauses!—like a falling star
He flashes down with powerful blow,
Foams the cleft wave and sounds afar,
His prey secured below!"

Fishermen always like to see the Gannet when they are herring or mackerel fishing, as they set their nets or "grist" their lines according to the height above the water from which it plunges; the greater the elevation of the birds in the air, the lower in the water the nets are sunk. A few years ago, at Castlerock, Co. Derry, I was much interested in watching the Gannets fishing. Out at sea they struck from various but always considerable heights; but close in shore, where the waves were breaking on the land and the water not more than two or three feet deep, the Gannets flew leisurely along, only

a few feet above the surface, and as the breaking waves would disturb the sand-eels, exposing them to view, the Gannets struck down in a slanting direction, and did not disappear for more than a moment below the surface, when they would again emerge, sometimes in flight, which seemed not to have been interrupted by their momentary submersion. I have since observed the same thing at Ballyholme Bay.

Speaking of the great depth to which Gannets can plunge in pursuit of prey, Mr. Thompson says that the extreme depth of water in which they can see their prey from a height must be somewhat conjectural; but that numbers of these birds have been taken in nets at a depth of 180 feet is fully proven. On this subject he contributed the following notes to Charlesworth's *Magazine of Natural History* :—

“ Having heard from two friends, who were grouse-shooting in the neighbourhood of Ballantrae, that they had seen great numbers of Gannets lying in a state of decay in holes on the beach, and that these birds had been taken at extraordinary depths in the fishermen's nets, I made particular enquiry on the subject from a worthy resident of my acquaintance (postmaster, &c., of the village), and received the following reply :—‘ Gannets are very commonly caught about Ballantrae, in Ayrshire (chiefly in the month of March), in the fishermen's nets, which are generally sunk from nine to twenty, but sometimes to the depth of thirty fathoms, just as the fish are lying. They are taken at all these depths, when the water is rough as well as smooth, and in both the cod and turbot nets (respectively five and seven inches wide in the mesh). Of the greatest quantity taken at one time, John, son of old Alexander Coulter, can make oath that he took ninety-four Gannets from one net at a single haul, a few years

ago. The net was about sixty fathoms long, a cod net, wrought in a five-inch scale. The birds brought up the net, with the sinkers and fish, to the top, where such as were not drowned made a sad struggle to escape. There were four nets in this train; but the above ninety-four were in one of the nets, and there were thirty-four additional birds in the other part of the train, being one hundred and twenty-eight Gannets in all.'

"Were these facts not simply attested," adds Thompson, "I would be incredulous about the depths which the Gannet sounds; but the information furnished in writing, the truth of which, it is stated, may be implicitly relied on, is precisely what was related to my friends, and the singularity of which prompted my inquiry. The vicinity of Ailsa Craig, the great breeding haunt of the Gannet in this quarter, must be recollected in connection with what is here related."

Mr. MacGillivray says that—

"The force with which the Gannet plunges from on wing in pursuit of a fish is astonishingly great. The following story, illustrating this point, was related to me by more than one person, and I believe it to be true. Several years ago an open boat was returning from St. Kilda to Harris, and a few herrings happened to be lying in the bottom, close to the edge of the ballast. A Gannet passing overhead, stopping for a moment, suddenly darted down upon the fish, and passed through the bottom of the boat as far as the middle of the body, which, being retained in that position by one of the crew, effectually stopped the leak until they had reached their destination."

Another fatal mistake is sometimes made by the Gannet attempting to swallow a fish too large or unsuited to its capacity. I saw a very fine specimen of a Gannet brought into Holywood which had been found by some fishermen

quite dead, with a grey gurnard sticking in its throat. The fish was head foremost in the bird's throat, and, its spines lying the wrong way, it could not be ejected.

Mr. Gray mentions similar cases as having come not unfrequently under his notice on the Ayrshire coast, near Girvan.

An Irish author, O'Flaherty, writing in the year 1684, said—"Here the Gannet soars high into the sky to espy his prey in the sea under him, at which he casts himself headlong into the sea, and swallows up whole herrings in a morsel. This bird flies through ship's sailes, piercing them with his beak." *

St. Kilda being inhabited, while the other principal resorts of the Gannet are uninhabited, save at all events by a caretaker or two, is best known in connection with this bird. Several authors and naturalists visited it, although it was formerly difficult of access, and have given most interesting descriptions of it. The estimates of some of these visitors of the number of herrings annually consumed by the Gannets of St. Kilda *alone* vary from 95 to 105 millions, and these estimates corroborate the figures furnished me by Mr. M'Donald; for, counting it out on his basis, we arrive at 109½ millions.

Steamboat excursions of late years have brought this once *Ultima Thule* within comparatively easy reach of the tourist.

I was till lately under the impression that St. Kilda was a single rocky island; but from a recent work on it,† I learn that what is now generally known by that name (anciently Hirta) consists of a group of five islands,

* *A Description of West or H-IAR Connaught*, by Roderic O'Flaherty, Esq., 1684.

† *St. Kilda, Past and Present*, by George Seton, Advocate, M.A., Oxon, &c.; W. Blackwood & Sons, London & Edinburgh, 1878.

besides some "stacks" of rock hardly meriting the name of islands. The islands are called—

1. St. Kilda (proper). It is about three miles long and two broad. In 1871, it was inhabited by 71 persons, 27 males and 44 females.
2. Borrera, or the lesser isle, $3\frac{1}{2}$ miles to the north of the principal isle. It is uninhabited, but grazes 500 sheep.
3. Soa, $1\frac{1}{4}$ miles long by only $\frac{1}{4}$ of a mile broad ; grazes 300 sheep.
4. Dune.
5. Levenish (inaccessible).

There are no Gannets in St. Kilda proper ; most of them frequent the stack of Ly or Leath, near Borrera. When speaking of St. Kilda, therefore, I wish to be understood as referring to the whole group, not to St. Kilda proper only.

In Mr. Folkard's delightful book, the *Wild Fowler*, I find (p. 357) a chapter on "Rock-fowling in St. Kilda," from which I extract the following :—

"The Island of St. Kilda has always been a favourite place of resort for sea-fowl, the numbers frequenting the cliffs and rocks of that locality at certain seasons being truly astonishing. During summer the natives subsist chiefly on the birds captured by the rock-fowlers, and on the eggs of the various species which build in the rocks. It has been affirmed that, during the fowling and eggging seasons, out of the abundance of fowl and eggs which are taken on the island, there is a sufficient surplus, after amply supplying all the natives, to support *two thousand* persons besides! When the fowling season commences in St. Kilda, the native fowlers have a merry-making, and feast together, as of one fraternity, over the first productions of their adventures. At this meeting

they arrange themselves into distinct parties (generally each of four persons), for the purpose of fowling. Each party has at least one fowling-rope, which should be about thirty fathoms in length.

“A fowling-rope is an indispensable requisite for the operation, and was formerly considered the most valuable implement a man of substance could be possessed of in the island. It was looked upon almost in the character of an heirloom, and descended through the family from generation to generation. It formed the first subject of bequest in the will of a St. Kildian, and on intestacy fell to the share of the eldest son. In default of male issue, on falling to a daughter's portion, it was reckoned equal in value to two of the best cows in the island.”

The manufacture of such a rope from salted and dressed cow-hides, and the mode of using it, are then described, the author continuing—

“The operations of rock-fowling are chiefly performed in the night-time, but the egging is done by daylight. The method in which the fowler captures his birds by night is very ingenious. It is as follows :—He clothes himself in garments as nearly resembling the colour of the rocks as possible, but upon his breast he bears a broad piece of white linen ; when, having descended, by aid of the bird-rope, to some shelf on the rock where he has obtained a footing, he places himself in a position with his back to the rock near the roosts of the birds, where he remains perfectly still. The birds, mistaking the white on the fowler's breast for a resting-place in the rock, fly directly towards it, and endeavour to cling to it, when the fowler immediately takes them with his hand, and, after wringing their necks, suspends them to his girdle, or throws them in a heap at his feet. The fowler generally continues these operations throughout the whole night, and sometimes with astounding

success, as many as four hundred fowl being sometimes taken by an expert fowler in one night.

“St. Kilda is also a well-known resort of the Solan Geese [Gannets], and the St. Kildian fowlers are particularly expert in capturing them; but to such persecution are these birds subject, that it is almost astonishing that there are any left in the island. They are the objects of the fowler's attacks at all seasons of the year. From the month of March, just before they begin to lay, the rock fowlers seek them in the night-time, and creep upon them so stealthily, that they snatch them from their roosts without disturbing others which may be roosting beside them. The fowler employs, besides, the very cunning stratagem of depositing the first captive goose, as soon as killed, among the living companions; the latter immediately begin to mourn over their departed friend with much grief and groaning; when the fowler, taking advantage of the mournful ceremony, secures many captives from among the mourners.”

“In the month of May, the fowlers climb and scale the rocks in the same way, in pursuit of the eggs of the Solan Geese; and about August and September they take the young ones (called *goug*), which are then just ready to fly, and in prime condition for the table, being so redundantly fat from the constant feeding of the parent birds, that they are, just at that particular time and season of the year, larger and heavier than the old birds. Macaulay asserts that the fat on their breasts at that time is three inches in thickness. They are also well covered with valuable down, of which they are stripped after being killed, and they are then sent to market.”

Sir Walter Scott, in "*Marmion*," speaks of a well-stocked house as having

"Sea fowl dried and Solands store ;"

that is, Solan Geese, or Gannets.

Mr. Thomas Ormerod, of Brighthouse, Yorkshire, has informed me of a visit he made to St. Kilda in the summer of 1877. The inhabitants of the island had then increased to 76, five more than recorded by Mr. Seton in 1871.

Mr. Ormerod gives a spirited description of witnessing one of the rock-fowlers plying his hazardous and daring occupation ; and his visit was evidently one of much interest.

Speaking of the Bass Rock, Mr. Selby said :—"This precipitous rock is rented from the proprietor at sixty or seventy pounds per annum, and as the proceeds chiefly depend upon the produce of the Gannets, great care is taken to protect the old birds, which the tenant is enabled to do from the privilege possessed by the proprietor of preventing any person from shooting or otherwise destroying them within a certain limited distance of the island. From the accounts I have received from the resident there, it appears that the Gannet is a very long-lived bird, as he has recognised, from particular and well-known marks, certain individuals for upwards of forty years that invariably returned to the same spot to breed. He also confirmed to me the time required for this bird to attain maturity—namely, four years ; and pointed out several in the different garbs they assume during that period, stating also that until fully matured they have never been known to breed. During incubation, in consequence of being unmolested, they become very tame ; and where the nests are easily accessible, upon the flat surface of the rock on the south-west side of the island, will allow themselves to

be stroked by the hand without resistance, or any show even of impatience, except a low, guttural note."

I recollect reading somewhere that in some parts of America Gannets are captured in very large numbers, the flesh of their breasts being used as bait for cod-fish.

Gannets are common here during the summer and autumn, being generally most abundant in the months of August, September, and October. On some occasions one may see many hundreds in the course of a day's boating near the entrance to the Bay. In winter they disappear. The earliest period in spring at which I have recorded the reappearance of the Gannet is 25th March, 1871. I have seen them frequently in April, and during all the following months till November. During the week 17th to 24th June, 1877, Gannets were numerous off Bangor, about a quarter of a mile from the shore. One might often see fifteen to twenty of them at a time, all "working," and sometimes four or five "striking" simultaneously; an interesting and beautiful sight, the sea being all lashed to a white foam within the immediate scope of their operations.

Out fishing on 22nd August, 1874, I saw a young Gannet flying between two old ones—the earliest period at which I had seen a young one here. On the following day I pointed out one young and two old Gannets, presumably the same, to my friend Dr. William B. Carpenter, F.R.S., who was walking with me on the shore near Groomsport. I saw grey Gannets in the Lough on 19th June, 1875, but did not think they were that year's birds.

I have occasionally seen a few Gannets off the Belgian coast when going to or from Ostend or Antwerp. Their small numbers here may be accounted for by the distance from any breeding station. I know of none on the Continental side of the Channel; and on the British side

the nearest would be Lundy Island in the Bristol Channel, and the Bass Rock in the Frith of Forth, distant respectively about 330 and 400 miles ; but Mr. Gray speaks of Gannets traversing such great distances that I would think it not impossible that those seen on the Belgian coasts were English or Scotch birds.

I may conclude my notice of the Gannet with an extract from a poem called "Ardglass ; or, the Ruined Castles," published in 1802. It is rather amusing :—

"When the huge body and enormous shoal
Of numerous herrings quit the frozen pole ;
Desert their northern clime for temperate climes,
Like Goths and Vandals in the barb'rous times,
To British seas, long wished, at length resort,
And yield our anxious poor a kind support :
Then various birds, with wonder we survey,
Attend the pilgrims on their watery way.
Of these the Gull and Gannet are the chief,
Who eat them up as glutton would roast beef.
The Gull, like Diver, rides the waves secure,
As huntsman rides the courser o'er the moor,
Yet ne'er descends within the briny flood,
But on the surface takes the finny brood.
With vent'rous wing the Gannet mounts on high,
And darts straight downward from the vaulted sky,
Pierces to wondrous depth the liquid plain,
Seizes his prey, and then ascends again."

CHAPTER III.

DIVERS AND GREBES.

The Divers were many, and various in hue ;
Of the Northern, the Imber, Black-throated a few ;
By tribes hyperborean their pelts often sought,
Into warm robes and flexile are frequently wrought.

JENNINGS.

AS mentioned at the beginning of this volume, the second family of the swimming birds is that of the *Colymbidæ*, or Divers. It contains eight species : three of them are the true Divers, composing the genus *Colymbus*. Two of these, the Great Northern and the Red-throated Divers, are shortly to be described. The third species (the Black-throated Diver (*Colymbus Arcticus*) is very rare here ; and, never having been observed by me, shall be passed by without further notice.

The other species of the *Colymbidæ* are the Grebes, five in number, composing the genus *Podiceps*, and which shall be more particularly alluded to later.

The two species of the true Divers just named, and which I wish now to notice, resemble each other in form and habits, and, to some degree, in marking, but differ considerably in size. Great differences of size, however, appear even in the same species of this division.

In a letter signed "G. C. G.," which appeared in the *Field* of 27th March, 1880, the writer mentions the pilot of the yacht he was in (the "Doris" yawl) telling him of the "Arran Auk," a large bird sometimes seen in certain places off the Scotch coast in March, and which the pilot

insisted was the Great Auk (*Alca impennis*), a bird believed to have been now for many years extinct in British waters. The pilot died ; but his sons redeemed a promise their father had made to "G. C. G.," and sent him one of these birds, which turned out to be a Great Northern Diver. It just occurs to me that the words "Arran Auk" and our local name for the two large Divers, "Allan Hawk," are so similar in sound that the one may be a corruption of the other, or possibly both derived from the same root. I wrote a few lines on the subject to the *Field*, which that paper very obligingly inserted.

The RED-THROATED DIVER (*Colymbus Septentrionalis*), locally called "Allan Hawk," is here much the commoner of the two ; I have seen it on our Lough in, I may say, every month in the year except June and July, but only twice in August ; one occasion was at the very entrance to the Bay, abreast of Blackhead, on the 27th of August, 1874 ; the other off Castlechester Bay, on 25th August, 1877. After the end of September they begin to be more commonly seen, their first appearances being about the mouth of the Lough, advancing up it only later on, which I suppose may account for Mr. Thompson's earliest recorded date of the reappearance of this bird, after its departure in the early summer, as being on the 16th October, 1843.

Although this bird is certainly shy and difficult of approach, I cannot agree with what many writers say on this subject, one author probably often following another without having observations of his own to guide him. Mr. Thompson says of it—"They are very interesting birds. An imaginative writer, like Buffon, might fancy them exhibiting a guilty aspect, and, through a consciousness of their evil ways, concealing under water the whole body except the mere line of back, their eye being at the same

time bent wildly on the spectator, while, as if to escape his observation, they keep repeatedly diving."

Mr. Thompson quotes then from Mr. Poole, who says that "he never but once knew them to resort to flight, in preference to diving, when closely pursued." My own experience is exactly the reverse of this, namely, that they almost always seek safety in flight if, after one or two dives, or sometimes without having dived at all, they find a boat unpleasantly near them; and I revert to this later. Mr. Poole says quite correctly — "They swim at an amazing rate, when aware of being objects of pursuit;" but he rather exaggerates in saying that, "when diving to escape, they merely come to the surface every two or three hundred yards to breathe." I seldom saw this species dive more than 80 or 90 yards at the outside; and even that is a very long distance to traverse under water.

Several writers speak of the extreme difficulty of procuring specimens of this species; but I have got them on five or six occasions, and might have shot them more frequently had I wished. I find the best way to be in a smart sailing-boat, one that is quick in stays. Follow the bird as closely as you can, observing the direction it takes when diving; and, if it rise within shot, make immediate use of your opportunity. A powerful shoulder-gun is required to kill them, for they take hard hitting.

I have retained three specimens for my own collection. One of these was shot on 20th February, 1869, in winter plumage, with white neck and breast; another, that I shot on 26th December, 1872, near Holywood lighthouse, was in similar plumage. On 14th May, 1873, I procured one in Bangor Bay, a very beautiful specimen, with the red pretty well developed on the throat; and on the 16th February, 1875, I shot a fine large one, about three-quarters of a mile from the land, off Greenisland. This

bird was $5\frac{1}{2}$ lbs. weight, and in a very unusual dark plumage. It rose to fly away after I fired my first barrel at it: the second barrel killed it.

Some of the authorities I have consulted say that single birds of this species are seldom seen; but I must differ from this, as I have numerous notes of seeing them singly.

As bearing on this point, as well as giving a general description of these birds in this lough, I shall give a note of one opportunity I had of observing them:—

20th March, 1875—weather fine, but cold; wind N., moderate to fair. Out from Bangor, shortly after 9 a.m., in John Scott's boat. In Bangor Bay we saw, and I fired at, a single Red-throated Diver. I knocked it over the first shot, and it lay on the water motionless, and seemingly dead. The wind was very light, and the boat had not enough way on to bring her to the bird when the helm was put down; but so sure was I of getting it, that I put down my gun and got the cripple net out, ready to lift it in. I was looking at the beauty of its plumage and symmetrical form with admiration and pity, when it began to show signs of life. It moved its feet, and, after one or two efforts, turned over on its breast; then tried to dive, putting its head below the surface and paddling itself with alternate strokes of its feet. It certainly at this stage did *not* use the wings. To my surprise it disappeared below the surface, and the boatman advised me to dispatch it with another barrel. Unwilling to risk spoiling it as a specimen, I preferred not firing at it again; but at last saw that I must do so. Unfortunately I came to this conclusion too late, for the bird seemed to get better and stronger every dive it took, and it finally dived away dead to windward, while we were slowly beating out of the Bay against a light breeze; and it got away from us altogether.

We saw eight or ten other Red-throated Divers during the day (in about six hours' sailing): *in one instance only* there was a pair of them; *all the rest were single birds*. This pair of birds and one of the single ones took wing at once on being approached, without any preliminary dive at all.

The long, narrow bodies of these birds give them a peculiar and unmistakable appearance on wing.

On 23rd March, 1873, I saw twenty-three of them swimming in company, about half-a-mile off Seapark, between Greenisland and Carrickfergus. They were somewhat scattered at first, but drew together as the boat slowly approached them, the wind being very light at the time; and they finally all took wing at once, far out of range.

On 25th April, 1874, I saw in Crawfordsburn Bay ten Red-throated Divers in a flock together. They were very wary, and took wing long before we were within shot of them.

On 17th April, 1875, I saw numerous Red-throated Divers, some of them still in winter plumage, others in the change.

On 15th May, 1875, saw one pair of Red-throated Divers.

On 20th May, 1876, saw two Red-throated Divers separately.

When fishing in smooth water these birds sometimes approach the shore very closely.

In illustration of this, I may mention having noted that on the evening of 18th April, 1877, I saw one about 25 yards from the water's edge, at half ebb, at Grey's Battery, between Holywood and Marino, and another about an eighth of a mile off Cultra Quay.

On 2nd March, 1879, saw a Red-throated Diver within a stone's-throw of the shore, a little beyond Cultra Quay.

On 14th March, 1880, I saw one about a quarter of a mile to the westward, and another about the same distance to the eastward of Cultra Quay, both pretty near the land, and saw them again on 21st and 30th March.

This species, so far as I can ascertain, does not breed in Ireland or England, or on the mainland of Scotland ; but does in the Hebrides, where it was observed in the last century by Pennant. Mr. MacGillivray also saw them on the lakes in the outer Hebrides ; and several more recent authors have recorded their breeding in the Orkney and Shetland Islands.

On 20th and 25th March, 1874, I saw Red-throated Divers tolerably abundant off the Belgian coast, and near the mouth of the Scheldt.

The GREAT NORTHERN DIVER (*Colymbus Glacialis*). This noble bird, one of the largest, handsomest, and most interesting of the British *Natatores*, shall be noticed at some length. Mr. Thompson does not appear to have had much personal acquaintance with it, although, in a lengthened and interesting description, he gives it due prominence. In M'Skimmin's *Carrickfergus* it says:— "*Colymbus Glacialis* (Northern Diver) sometimes seen."

I remember seeing one of these birds alive that had been captured near Donaghadee, somewhere about the year 1849. I have no record of it, but remember that it was in the handsome plumage which distinguishes the bird in summer.

The first note that I have of it is that, being down the Lough on 1st May, 1869, in a steam-launch, we fell in with a large diving-bird off Greenisland, and chased it, unsuccessfully, for above an hour. We were near enough to see the rings on the neck ; but it was such an accomplished diver it eluded our efforts to kill or capture it, ducking the flash when fired at. Later in the day we fell in with another

of the same species in Ballyholme Bay ; and, after a long chase, having wounded it at the first shot and followed it up very closely afterwards, I secured it ; it was a very good specimen of the Great Northern Diver, in full summer plumage. The weight of this bird was $12\frac{1}{4}$ lbs.

I have other notes of seeing this species in the Lough, on eighteen or twenty different occasions altogether ; in most of the autumn, winter, and spring months, but never, till lately, between May and October ; my latest recorded date—*i.e.*, in the spring, before migration—being 20th May.

On 14th May, 1873, I chased one off Cultra, and another off Ballymacormick Point ; both of which individuals I had previously observed in the same places, and which I went in search of, on account of having frequently remarked that diving-birds, if undisturbed, continue to frequent the same place for a long time together. On 17th April, 1875, I was out boating in the Lough for six or seven hours, and did not see one of them at all, at which I was much surprised.

With regard to one of the Great Northern Divers, which was pursued unsuccessfully, the following is my original note :—

Wednesday, 14th May, 1873, off Cultra, saw the large bird which I had seen there on Saturday, and went after it. One time it rose about forty to fifty yards off, at all events sufficiently near to see distinctly the neck rings and marking of the Great Northern Diver. I got a shot at it this time, and, although the shot seemed to go all round the bird, it dived apparently none the worse. It rose again pretty soon, about one hundred yards off, gave a loud, harsh cry, flapped its wings, and dived again. We now chased the bird for fully half-an-hour, but it was such an expert diver, staying so long under water, going such distances, and generally appearing in a direction different

to what we expected, that we never got near it again, and finally had to give up the chase. I remarked particularly that the bird did not dive with a jerk, like the Puffins and Guillemots, throwing their tail into the air as if turning a half summersault before disappearing below the surface ; but it seemed simply to bend its head forward, and shoot beneath the surface, apparently without an effort.—Again, on the same day, outside Ballymacormick Point we saw the other Great Northern Diver, and gave chase for fifteen or twenty minutes, but it got away from us and out of our sight altogether, and we had to give it up. Both these birds were in full summer plumage.

On these last occasions the chase was conducted in the best sailing-boat I ever used for the purpose—the “Woman in White,” a centre-board, Una-rigged boat, built by Corke of Cowes, and which I had purchased from the Earl of Dufferin. With her small draught of water she sailed very fast in a light breeze and smooth sea, and went round like a top in stays ; and as, owing to her rig, she gave no trouble shifting sheets, she could be stayed half-a-dozen times in as many minutes ; while her full lines and great beam, 10 ft. 4 in., gave her great stability and buoyancy when in a strong breeze and tumbling sea.

16th May, 1877.—I saw a Great Northern Diver in full summer plumage off our house at Clifton, Bangor, this morning. I watched it for about a quarter of an hour, 80 to 100 yards off the land, and saw it catch two fish. This bird dived exactly as above described.

Instances in which I saw the Great Northern Diver here in winter plumage were on 7th January, 1871 (near Glenarm) ; on 18th October, 1873 ; 6th February, 1875 ; 20th March, 1875 ; 25th April, 1874 ; and 27th April, 1878. Regarding the second of these, the following is what I noted at the time :—

18th October, 1873, from the "Shaddock" (a sunken wreck about a mile off Groomsport) we stood into Ballyholme Bay, and there fell in with a Great Northern Diver, which we chased for fully half-an-hour, quite ineffectually, never getting a chance of a fair shot at it, so wary was it, and such an accomplished diver. I did finally fire a shot at it at about 120 yards, with a B.B. cartridge, and saw the shot strike the water all round it, but the only effect this had was to make the bird dive again, and, this time, disappear altogether.

On 25th April, 1874, I went out for a day's boating, and was fortunate enough on that occasion to secure a fine specimen of this bird in winter plumage; and about this I shall give my original note, as follows :—

Out boating, we saw one Great Northern Diver, between Bangor and Crawfordsburn, about half-a-mile off the land. It was well marked (summer), but had only one collar on the neck. I fired at it without result, and it disappeared. . . . A little to the westward of Greypoint, I fired at a large bird in the water. There was another similar bird in company that happened to be down when I fired at the first, which latter, on being fired at, dived, and showed up near us once or twice, just for a second or so, and then made off, diving and swimming out to sea. The second bird remained nearer the shore; and, after a short, ineffectual pursuit of the first, we returned towards the second. It uttered several times a full, round, soft, musical note, like "Coo-ou-ou," something like the cooing of a dove, but deeper, richer, and louder, with a turn at the end. I may here remark in parenthesis, that Mr. Yarrell says "their voice is loud and plaintive, varied occasionally from a high note to a deep croak." I have now mentioned the only two occasions on which I heard the bird utter any note—one of them was a loud, harsh croak; the other the

beautiful, soft, and quite touching cry last mentioned. To resume : I fired a hasty shot at this bird with my No. 8 double breechloader, charged with a 2 oz. wire cartridge of No. 1 shot, about 50 yards off, and killed it stone dead at the one shot. It proved to be a splendid specimen of the Great Northern Diver, in winter plumage ; its breast and lower parts of the body a pure white ; back, wings, and sides, and almost all the rest, dark-grey to nearly black. Its legs, toes, and the upper part of the membranes were a curious olive-grey tint. The beak also was a light greenish-grey stone colour. This bird was 12 lbs. weight. Later in the day we saw two other Great Northern Divers.

I saw two of them hanging up in a poulterer's shop in Manchester in January, 1874, and heard, on inquiry, that they had been sent to him for sale from Scotland. The locality was not mentioned. Both were in winter plumage.

In December, 1874, I saw two Great Northern Divers, quite fresh, in the shop of Mr. Sheals, bird preserver, of Corporation Street, Belfast ; one in winter, and, strange to say, the other in summer plumage. The latter was a small, and not quite a mature bird. Mr. Sheals told me they had both been sent to him from the neighbourhood of Dublin.

Mr. Yarrell's description of the generic characters of the true Divers, to which these two species belong, is so good that I do not hesitate to borrow from it. He says— "Bill about as long as the head, strong, straight, and pointed. Legs thin, the tarsi compressed, placed very far backwards, and closely attached to the hinder part of the body ; toes three in front, united by membranes ; one toe behind, with a small membrane. The claws flat. Wings short."

In this description, and in the shape and appearance of these birds, taken in conjunction with the account of their

habits just read, we have a beautiful instance of the adaptations in nature of form and habit to one another. Their food is fish, and their sharp fine heads and necks, followed by gradually thickening bodies, with the feet placed so far behind, and in a line with the body, allow and enable them to propel themselves in the water, whether on or below the surface, in pursuit of their prey, with amazing rapidity. The legs, "thin and compressed" as stated above, their front edge being almost as sharp as a knife, give great strength in the direction where strength is wanted, and almost no resistance when the bird is bringing its foot forward. The membranes uniting the toes, or the "webs" as we call them more familiarly, are very broad, and give a great propelling surface for the backward stroke.

These birds are as awkward and ill at ease on land as they are at home in the water; their legs are so placed and formed that they cannot walk, or even stand, upright. Colonel Montagu mentions a Great Northern Diver that "shoved its body along upon the ground by jerks, like a seal, rubbing the breast against the ground;" and another author speaks of the female, if disturbed while sitting on her eggs, "making her way into the water by scrambling, sliding, and pushing herself along." Mr. J. V. Stewart wrote—"That these birds are well able to fly I have had frequent proofs, but not so as to their pedestrian capabilities. One, which I got alive and uninjured, on being placed within a few yards of the water, when I was setting it at liberty, remained on its breast wistfully looking at that element in which it was accustomed and wished to move, but appeared quite incapable of transferring itself to it; and, though placed repeatedly upright, it always fell down again on its breast. It was only at length emancipated from this helpless state by being placed

close to the edge of the water ; when, pushing itself along with its wings and feet, it got afloat, and, joyfully diving, bid us a long adieu.”*

Montagu says—“ In swimming and diving, the legs only are used, and not the wings, as in the Guillemot and Auk tribes.” Mr. Yarrell, entirely differing, says—“ They sometimes use the wings under water ;” and in this I would certainly agree with, and even go farther than, Mr. Yarrell ; as I have observed that they can proceed much more rapidly when diving beneath, than when swimming on, the surface ; and feel sure that they must use their wings when below. Since these lines were first written, I have obtained the fullest confirmation of my opinion on this point, and shall mention it later. Speaking of its appearance in the Frith of Forth, Sir William Jardine says that he has pursued a bird of this species in a Newhaven fishing-boat with four sturdy rowers ; and, notwithstanding it was kept almost constantly under water by firing as soon as it appeared, the boat could not succeed in making one yard upon it ; and he adds—“ There [in the Frith of Forth] I have never been able either to make up with or cause one to fly from the sea.”

Referring to the Great Northern Diver, Mr. Robert Dunne says—“ This beautiful bird is extremely shy, and difficult to get within shot of ; it dives with the utmost facility, can remain a long time under water, and rises again at a great distance.”

This usually accurate author, however, is, I believe, in error when he says that—“ In the act of diving it sinks gradually under the surface, the head being the last part that disappears ;” and I see Mr. Folkard, in the *Wild Fowler*, has repeated the statement in almost identical

* Thompson, vol. iii., p. 199.

words. I have already mentioned my own observations on the bird's diving, my attention having been directed most particularly thereto in consequence of reading the statements just quoted. Since the foregoing was written, I communicated to the *Field* the following note of the appearance of the bird here, which, apart from its general bearing, quite confirms my previous observations on this particular point:—

Saturday, March 20, 1875, scattered through the Lough, in the space lying between Kilroot Point and Whitehead on the north, and Greypoint and Ballymacormick Point on the south side of the Bay, we saw five or six Great Northern Divers—two not far apart, near Ballymacormick Point and Groomsport, the others all singly—within a mile or so of the shore. Of one of these fine birds, near Ballymacormick Point, I had a remarkably good view for a length of time; in fact, I never before saw one to the same advantage. The wind was light, and the water smooth; the bird to windward, and about 120 yards off; but a good binocular brought it very near, as it swam leisurely along, not the least alarmed, washing itself and preening its feathers with its bill. The neck looked longer, and was more flexible than I should have supposed, and admitted of a graceful curve backwards, something like that of a swan, but of course not to anything like the same extent. When the bird was arranging the feathers on its left side with its bill, it heeled over considerably to the right, till it was lying almost entirely on its side—I had almost said on its “beam-ends”—then it would stretch its neck up into the air and open its bill, as if yawning, snapping the mandibles together, and, turning slowly over on the opposite side, would give a lurch or two to “port” before settling down on that side to dress the feathers on its right. After some finishing touches, it stood upright in

the water, flapped its wings, resumed its usual swimming position, stretched its neck forwards and downwards, and lo, it was gone! not a ripple that I could see remaining to mark the spot where it had disappeared. After the lapse of about two minutes, or rather more, it emerged fully 300 yards away, so near as I could estimate from where it had gone down. It soon dived again, and was then lost to our view.

Mr. Selby has estimated from his own observations that the Black-throated Diver, whose powers in this direction are certainly not superior to those of the Great Northern, can swim under water at the astonishing rate of eight miles an hour; and he gives an interesting and spirited description of the pursuit of these birds on different occasions by Sir William Jardine and himself:—"Our utmost exertion," says Mr. Selby, "could never bring us within range; and we were often foiled by its returning on its former track, and reappearing in a direction contrary to that in which it seemed to have dived. During this pursuit it was frequently lost for several minutes together, and came up nearly a quarter of a mile ahead." And, speaking of a different occasion, he continues—"Our pursuit after them was, however, ineffectual, though persevered in for a long time, as it was impossible to calculate where they were likely to rise after diving. Submersion frequently continued for nearly two minutes at a time, and they generally reappeared at nearly a quarter of a mile distant from where they had gone down. In no instance have I ever seen them attempt to escape by taking wing." These are my own experiences of the Great Northern Diver to the letter.

I could not, till quite lately, satisfactorily make out that this bird breeds anywhere in these countries, but read that it does so in Iceland, Spitzbergen, and other countries far North.

The bird has been seen in Shetland during the breeding season, but only very rarely; some observers think these must have been wounded or weak birds, that were unable to leave when the time for the spring migration arrived.

Be that as it may, my friend Mr. John Herdman has assured me that this species breeds on some of the numerous lakes in the remote and little-frequented western parts of the County Donegal, in the district known as the Rosses. Mr. Herdman had not seen the birds himself; but his keeper, who is a man of much experience, and with a good general knowledge of birds, had seen them, and was quite positive as to the identity of the species, which he spoke of without any hesitation as Great Northern Divers.

Mr. Herdman mentioned, as a curious circumstance, that, on some of the numerous rocky islets and rocks in a fresh-water lake opposite his house at Dunglow, three kinds of birds breed, one after the other:—

First—Wild Ducks; very early.

Second—Large Gulls.

Third—Small Gulls (*Terns*).

Out sailing on Belfast Lough, on 12th August, 1876, I saw a Great Northern Diver in plumage like winter, I suppose an immature bird. This is very unusual and remarkable, and seems to point to the bird having been hatched in no very distant locality, or it could not have got here so soon.

On 30th June, 1877, I saw a large bird near the sunken wreck of the "Reindeer," off Greypoint, where I was fishing. Had it been in spring or late in the autumn, I should have spoken of it without hesitation as a Great Northern Diver; but, seeing it in midsummer, I merely mention the circumstance without expressing a decided

opinion that it was this species, although I believe it to have been so.

Yarrell mentions this bird being pretty generally distributed over Northern Europe. I have heard from my friend Mr. Edward Hiele, jun., that he saw, early in 1875, a specimen which was procured on the river Vistula, in the neighbourhood of Warsaw (Poland), and am glad to mention this here, as I have seen no other record of their having been observed in that particular locality, or so far from the sea. The Black-throated Diver, Mr. Hiele informs me, is commoner there than the Great Northern.

The Great Northern Diver was formerly supposed to be incapable of flight; but, although this is now well known to be a fallacy, I do not wonder at the mistake being made; for, at first sight, one can hardly imagine how such short, small wings could support such a heavy body. I have already mentioned never having been able to make one take wing. They do so with difficulty, generally flapping along the surface of the water for a long distance before they can contrive to get their ponderous bodies properly "under weigh" in the air. Even when fairly started, their upward course is so slow and gradual that, if they take flight from the surface of a small lake surrounded by trees, they require to make three or four circuits of the lake in a gradually ascending course before they arrive at a sufficient elevation to "top" the trees. Once fairly on wing, they fly rapidly, and have an extensive range of flight. One was killed some years ago in this country, which was found to have a copper-headed arrow sticking through its neck. This bird was supposed to have been so wounded by an Esquimaux on the Coppermine River, and the circumstance was cited as indicative of the wide range of the species, notwithstanding its apparent inability to fly.

I intended closing here my already long notice of the Great Northern Diver, but was fortunate enough to have my attention drawn to two books, both of which mention it at some length.

The first description, an ancient one, appears in *A Natural History of Norway*, by the Right Rev. Erich Pontoppidan, Bishop of Bergen, in Norway, published in 1751, the English translation in 1755; and it is as amusing from its absurdity in some respects, as is the other and modern description interesting and valuable from its accuracy. The latter is to be found in the late Dr. Saxby's work on the *Birds of Shetland*, edited by his brother, the Rev. Stephen H. Saxby, and published in 1874.

I shall quote briefly from both.

Pontoppidan says—"The Imber, Imbrin, Ember, or Great Northern Diver, is a pretty large sea-bird, a little bigger than a Goose." Then follows a description of the plumage, and he continues—"The wings are so short that they can hardly raise themselves with them; and the legs stand so far backwards, that they are not so fit to walk with as to paddle themselves along the water." "On enquiry how they find place and opportunity to hatch their young, I have been informed they lay but two eggs, which is very likely, for one never sees more than two young ones with them. Under their wings in their body there are two pretty deep holes, big enough to put one's fist in; in each of these they hide an egg, and hatch the young ones there as perfect and with less trouble than others do on shore." This story has evidently been almost too much for Bishop Pontoppidan, for he adds:—"Herr Lucas Debes, *whom I consider as a pretty cautious writer*, does *not* look upon this to be improbable." I fear the bishop, like another naturalist who comes nearer ourselves both in time and distance,

was rather over-credulous. Ornithologists are as easily "gulled" as other mortals; and, as illustrative of this, I remember hearing a good story about the late Mr. Wm. Thompson. When his work was published, a portion of it was being read aloud to a very old gentleman, who was well known in his day as a sportsman and something of a naturalist, and some of whose numerous anecdotes partook rather of a Munchausen character. On something being read out to him, he asked eagerly—"Is that in the book?" and, on being answered in the affirmative, he rejoined, laughing heartily, "Why" (with a round oath), "*I told Thompson that lie myself.*" Pontoppidan continues:—"The young ones are easily enticed ashore and killed; but the old ones, which are most valued on account of their fine feathers and down, know very well how to guard themselves against gun-shot, for they duck quick under water; several shot may be discharged, but seldom with success." "As far I yet have found, this wonderful bird seems to be quite unknown in foreign parts, for neither Aldrovandus Gesnerus, Willughbeius, Zornius, or Klein say anything of it. They are likewise unknown to many of our Norwegian writers."

I find some very amusing things in the right reverend bishop's book. He alludes to the old story of barnacle geese growing on trees, but does not believe it. He does, however, believe in mermaids and mermen; in the great sea-serpent, of which he gives pictures; and in other sea monsters.

Now for part of Dr. Saxby's description. He says the Great Northern Diver arrives in Shetland in September, and leaves in May; a couple occasionally, but very rarely, being seen in summer, and evidently breeding there. He then goes on to say—"Owing to the extreme watchfulness of this bird, and to its wonderful powers of diving,

specimens are by no means easily obtained. . . .

The most favourable chance is when it is feeding under rocks which are sufficiently irregular to afford concealment to the shooter, who, it may be remarked, should in calm weather proceed very cautiously, or the bird will perceive him from an almost incredible depth, and instead of rising near the anticipated spot, will appear quietly swimming away far out of shot seaward. . In smooth water, a boat and its moving shadow can be seen from beneath the surface of the water from a considerable distance. . . .

The instant it perceives itself threatened with danger, it either sinks the body low in the water or entirely disappears, seldom emerging before it has traversed a distance of a hundred yards, or perhaps even five-times that space, according to its idea of the extent of the danger. When once it has become thoroughly alarmed, further pursuit is generally hopeless. . . . As the boat approaches, at first the Diver sinks the body very low—so low that the water covers the hollow of the back ;” and Dr. Saxby once, but only once, saw it take wing immediately on being fired at.

Speaking of the immense muscular power possessed by this bird, Dr. Saxby says—“ An instance of its strength in the water was related to me by a gentleman of my acquaintance, and also by a lad who was with him at the time the experiment was made. Having slightly wounded a Northern Diver, he and the lad managed to get it alive into the boat, and then, by means of a stout line, they made it fast by one leg to the stem, and tossed it overboard. The poor bird instantly dived, and for many minutes steadily towed the boat seawards, remaining entirely submerged the whole time, except when it rose for a few seconds to breathe. During this extraordinary performance, it made use of the wings as well as the feet

[this confirms my own preconceived opinions on this point]—of course being able to use only one of the latter freely. The boat was thirteen feet in the keel, but light for its size."

I find it difficult to leave the Great Northern Diver. Mr. Gray, in his *Birds of the West of Scotland*, speaks of it at some length, and I copy one of his notes:—"At various times I have seen Great Northern Divers caught in salmon nets: two very fine specimens, in full breeding dress, were captured in this way, at Girvan, in the second week of May, 1869. In his submarine flights, this bird is not proof against accident from contact with the legitimate inhabitants below. In November, 1860, some fishermen belonging to Ackergill, while pursuing their ordinary avocation in Sinclair Bay, Caithness, had their attention directed to a large fish struggling on the surface of the water, at no great distance from their boat. On rowing towards it, they found, to their surprise, that it was a large Sea Devil, or Angler, which had closed its capacious jaws on a Great Northern Diver, but had been unable to swallow more than the head and neck. With its extended wings the bird was frantically thrashing the water, and effectually resisting the efforts of the 'Devil' to get him under the surface. By the use of a boat-hook, the 'whole affair,' as one of the fishermen described it, was hauled in triumph over the gunwale, and the bird, which was still alive, at once released. The probability is, that the bird, in descending to the floor of the sea in search of food, had accidentally thrust its head into the open jaws of the fish, which, as is well known, conceals itself at the bottom by stirring up the mud and sand with its abdominal fins, and keeps its huge mouth prepared to receive any inquiring fishes that may happen to swim to the spot to find out the cause of the disturbance." As I read in *Alice's Adven-*

tures in Wonderland, when she tries to say the "little busy bee," but somehow speaks of the crocodile :

" How cheerfully he seems to grin,
How neatly spreads his claws,
And welcomes little fishes in
With gently-smiling jaws."

There are other dangers, however, to which these birds are exposed when in pursuit of their prey at or near the bottom of the sea ; and the depths at which they have been taken in fishermen's nets and on long lines afford full confirmation of their wonderful diving powers. (See Thompson, vol. iii., p. 259.)

According, Mr. Gray says, to the Rev. J. L. Buchanan, the Great Northern Diver was known in the last century, in the islands of Lewis and Harris, by the name of " Bishop Carrara." Can this have been on account of the bands on its neck ?

The Red-throated Diver Dr. Saxby also notices at some length ; speaking of it, however, as much less numerous in Shetland than the Great Northern ; although it has been, he says, from time immemorial, a constant resident there. I shall make one extract from him about this species :—
" The habits much resemble those of the Northern Diver, with the exception that it is far less shy, is more ready to take wing, and often wanders from the sea far up the burns. . . . I have seen a specimen that was caught by hand in a burn, and I once myself saw another in a similar situation, and chased it for about two hundred yards, the whole of which distance it traversed beneath the surface without rising for breath. . . . Fast running would have been needed to have enabled me to head the bird, which I distinctly observed *flying* under water, not merely paddling with its wings, as it sometimes does when feeding."

This was getting the poor bird in a very unusual predicament ; for, generally speaking, this species (the Red-throated) does not dive so far, nor stay so long under water at a time.

The only further notes of my own that I shall add to this already lengthy notice are, that on 6th May, 1875, I saw a Great Northern Diver, a small-sized bird, but in full summer plumage, within a stone's-throw of the water's edge, near the point at the western side of Ballyholme Bay.

On 27th April, 1878, out sailing with my friend Mr. A. H. Coates near the eastern side of Ballyholme Bay, we saw, and chased for above an hour, two Great Northern Divers. They were both large birds, but their plumage was very different, one looking quite dark and the other light. The difference was so marked that we called them respectively the "black one" and the "white one." We never got near enough for a shot, but I observed the diving to be generally as already described (p. 60). Just once, one of the birds rose close beside us ; and, evidently much alarmed, it dived instantly again with a great splash and flutter. The distances traversed by these birds, and the rate they go at under water, are simply marvellous ; and, although seen frequently before, they always excite my astonishment.

The birds generally seemed to go in a direction different from that to which the head was pointed when going down, as if they changed their course when under water on purpose to baffle their pursuers. I distinctly observed one of the birds once sunk so low in the water that the hollow of the neck was covered.

We now come to the GREBES, two only of which, the Sclavonian Grebe (*Podiceps Cornutus*), and the little Grebe, or Dabchick (*Podiceps Minor*), have come under my own notice in the Lough.

Mr. Thompson has only one instance on record, out of

more than twenty occurrences of the species in this neighbourhood, when the Great Crested Grebe was procured in Belfast Bay ; so I did not intend to notice it as one of the birds of the Lough, but may mention that, shortly after these last lines were written, I saw a Great Crested Grebe (*Podiceps Cristatus*) which had been shot off the end of the Kinnegar, near Holywood, by Mr. W. Anderson of that town ; and he told me this was the third he had shot there within five years. The other two species of Grebe—the Red-necked and the Eared—are so very rare as not to require further mention here.

The ladies should take an interest in this genus, as it is from it that the beautiful, soft, glossy Grebe fur, so much used for muffs and tippets, and for trimmings, is obtained. Grebe fur has long been used for these purposes ; some old authors give the Great Crested Grebe the name "Tippet Grebe." The birds must be very numerous in some countries, as witness the number of skins required to make a suite of Grebe furs, for which only the skin on the breast of the birds can be used.

In the *Economist* of 15th March, 1879, there appeared advertisements of the sales, by auction, of 24,750 Grebe skins—Turkish, Russian, and Californian—and such advertisements are constantly appearing. These skins are brought principally from the Black Sea and from California. Their value in the London market is 5s. to 6s. each for large, and 1s. 6d. to 2s. 6d. for small ones. One of my London correspondents adds, very significantly, that "the supply is falling off." Not much wonder. It is well for the Grebes that fashions change, or the supply would soon cease altogether. My own notes on the Grebes are very scanty, and I have only, so far, procured one specimen each of two species. On the 3rd March, 1869, about a mile off the land, and rather farther up the Lough

than Carrickfergus, I saw a small bird of a species then unknown to me, which, after many misses—the bird being a most expert diver—was at last shot. It proved to be a Sclavonian Grebe, in the plumage of the “Dusky Grebe” of Colonel Montagu and other authors ; but the two species are now generally believed to be identical. Mr. Thompson has but few notes of this species being obtained in the Bay, and I have only one other note of having observed it there :—

5th February, 1870, about three-quarters of a mile to a mile square off Holywood, fell in with a curious small bird, with a longish thin neck and small head, showing none of its body at all above water. It was a most expert diver, going down apparently without the least effort, and making not even a ripple on the surface where it disappeared. Not being able to get near it, I fired three very long shots at it without effect, and then lost it altogether.

On 27th December, 1874, I visited the lake in Clandeboye demesne, and was much interested to see the number and variety of wildfowl frequenting it. This visit enabled me to identify the little bird, just mentioned as seen nearly five years previously, as the Sclavonian Grebe ; a bird which I am sure was of this species being plainly visible on Clandeboye Lake, rising two or three times within twenty-five to thirty yards of us, on the occasion named. Speaking of this Grebe, Mr. Dunne says—“It is a very shy bird, and a most expert diver, frequenting the sea, but always remaining close to the rocks, where the sea-weed which is attached to the land floats on the surface of the water ;” differing in this respect from my experiences, in both of which I found it about a mile from the land. This species is said, but not with certainty, to breed in Sutherlandshire ; nowhere else that I can hear of in these countries.

The Little Grebe, or Dabchick, is more of a fresh-water than of a sea-bird, and indeed I have scarcely ever seen it in the Lough myself; but a few years ago a man brought me a specimen, quite fresh, which he had found floating in the sea, dead, near Marino. On 15th November, 1875, a lad brought me one which he had shot in the Lough, near Holywood, on that day.

On 14th December, 1878, Mr. A. H. Coates sent me a Little Grebe, which had been shot that day from the shore, near Smelt Mill Bay, beside Bangor, and which Mr. Coates picked up in his boat. An intense frost prevailed at the time. I had previously (21st April, 1873) shot another specimen on a piece of ornamental water in the vicinity of the town, and close to two or three dwelling-houses. It was extremely shy, and a most expert diver. The water in question was the habitation of numerous wildfowl—Ducks, Wigeon, and several other species—in captivity, which were frequently visited by their wild brethren from the sea. These came in considerable numbers at night, and took their departure in the morning; sometimes, however, reversing this order; sometimes, also, coming near the time of high water, and leaving again when the tide had ebbed. Two or three pairs of Moorhens, or Waterhens (*Gallinula Chloropus*), had taken up their abode in the same favoured spot. Nearly all these birds bred in captivity; but unfortunately many, indeed most, of their eggs and young were destroyed by rats, which infested the place round the pond sides in great numbers. Partly, I have no doubt, to escape from these pests, the moorhens built their nest and brought out their young brood in a tree, removing them when hatched to a second nest on the ground. The Little Grebe is very generally distributed over the ponds, lakes, and rivers in the country; but is

so extremely shy as to be very rarely noticed, except by those who are on the look-out for it. I have seen it at Killarney; nearer home at Drumadarragh, County Antrim; at Clandeboye, County Down; and on only one or two other occasions.

Mr. Thompson says—"It is a most unobtrusive species, and requires to be patiently looked for to be seen at all, unless it comes within our view by chance." He also says, that at Lissanoure Castle, Co. Antrim, "their nests were often found, and, after a storm, have been seen floating on the lake with the birds sitting on them."

Sir William Jardine, having had an opportunity of observing this bird under water, thus describes its movements:—"When moving straight forward it is propelled by the wings, a sort of flight; but when turning, and, we presume, when seeking its food, it has an easy, gliding motion, feet and wings being used as occasion requires, sometimes on one side, and sometimes on the other, and we were reminded of the graceful gliding motions of the otter, where every turn seems given with perfect ease, at the same time with great activity and quickness." As Drayton says—

"The diving Dabchick, here amongst the rest you see,
Now up, now down again, that hard it is to prove,
Whether under water most it liveth or above."

The Poly-Olbion.

The feet of the Grebes, as implied by their generic name, *Podiceps*, are most peculiar, and are an unmistakable guide to the family. The legs are placed very far back, as in the true Divers first described, and they show also the beautiful adaptation of form to habit which I briefly mentioned in those birds, being very much compressed, and their anterior edge almost as sharp as a knife. The feet have three very long toes in front, and one small toe

behind; and they are not "webbed," in the generally accepted sense of the word—that is, the toes are not connected together by a membrane—but they are very much flattened, and provided, on what one may call the inner edge of each toe, with broad separate membranes, the extended surfaces of which would equal in area the webbed feet of most birds of equal size. From the peculiar shape and position of these toes, and the manner in which they overlap one another, and are partially united at their base, I believe they are used with a kind of rotary motion in swimming, the edges only opposing the water in the forward stroke, and the whole width of each toe, and that, too, in a direct line with the body of the bird, opposing it in the backward stroke. The claws are large and flat, more like nails than claws.

We now leave the Grebes, which indeed I should not have noticed as regular frequenters of the Lough at all, they are so little seen, but for the fact of their belonging to the *Colymbidæ*; and, having mentioned the more prominent and distinguished members of the family, I thought it hardly fair to omit all mention of these, their less obtrusive relatives.

CHAPTER IV.

SKUAS, SHEARWATERS, AND PETRELS.

"Now such as flying feed, next these I must pursue."

DRAYTON.

I ALREADY mentioned that the common local name for the Red-throated Diver—and it sometimes applies to the Great Northern also—is the "Allan Hawk." I have also heard it called "Holland Hawk," but "Allan Hawk" is, and has been for a long time, the common and quite recognised name; for I see it so described in "M'Skimmin's *History of Carrickfergus*, published in 1811. Now it has often been a puzzle to me how the word "Hawk" could ever have been applied to either of these birds, in every way so unlike the true Hawks. If the Skuas were called Hawks, it would seem more natural, seeing that they are predatory in their habits—robbers, in fact; not fishing for themselves, as honest birds should, but chasing the Gulls, and forcing or frightening them to disgorge their food, which the Skua, swooping down upon, almost always catches before it reaches the water.

I find the SKUA—the *Laris*, or *Lestris Catarractes*—described in Harris's *History of the County Down*, published in 1744; and he says—"Its whole appearance shows it to be a bird of prey" (this not being, however, exactly the case), and he adds—"About Rose-Trevor and the Coasts of Mourne it is called the Allan Hawk." I fancy this name, originally applied to the Skua, must, by some misunderstanding, have come to be applied to the Red-throated Diver, and that it has at length become identified

with this species. In rambling notes like these, one thing so leads to another, that, having once mentioned the Skuas, I may now briefly describe them. There are four species recorded as Irish. I feel rather uncertain about this genus ; and, on the whole, a good deal of uncertainty does seem to prevail about them, arising from their great variety of plumage, and from the absence or presence of the long tail-feathers. I can, however, speak with tolerable confidence of two species—Buffon's and the Pomarine, of each of which I have obtained two good specimens.

Of the former (*Lestris Parasiticus*), one was shot by my friend Mr. J. R. T. Mulholland one day—28th August, 1869—while we were fishing on the wreck of the "Prude," off Crawfordsburn, when it was in the very act of chasing a Kittiwake Gull. The other was shot, off Bangor, by myself on 29th August, 1874. From descriptions given, I have no doubt the so-called "Common" Skua, of Yarrell—although this would be a misnomer so far as Belfast Lough is concerned—does sometimes occur here. I should prefer calling this bird, with Dr. Saxby, the Great Skua ; or, with Mr. Thompson, simply *the* Skua. The three authors named, as well as others, speak of the size, strength, and courage of this bird : although it has webbed feet like a Gull, it has a partially hooked bill and strong claws like a Hawk, and has also something of the dark-brown and black mottled plumage of some of the Falcons. It not only robs the Gulls of their food in the manner already described, but, if they have no food of which it can deprive them, it sometimes kills and eats the Gulls themselves ! Dr. Saxby says that in Shetland these birds attack, and defeat too, even the Eagles. Some of the more intelligent of the Bangor boatmen know the Skuas perfectly well. They have told me of a much larger Skua than any that I have seen, chasing and killing the larger Gulls, such as the

Herring Gull. The scientific name of this bird, *Lestris Catarractes*, is most appropriate—*Lestris* signifying a pirate vessel, and *Catarractes* dashing down; so this bird is likened to a pirate dashing down on his victims. The Skuas are only to be seen here in the autumn, August and September, and into October. When the shoals of fry or young fish come into the Lough in large numbers, the larger fish and the birds accompany them, and then it is that our beautiful bay looks its best. Its waters are full of fish; its surface covered with the smaller Divers, Razor-bills, Puffins, and Guillemots; and the air above peopled with the Gulls and Terns. Among the latter the Skuas are busy. One might fancy their having heard of "that good old plan, that they may take who have the power, and they may keep who can;" this seems at least to be their practice. High above all the rest soar the majestic Gannets. Here and there the attacks of the fish force the fry into a mass, or "ball," at the surface. This is soon perceived by some birds, who hasten to prey upon them; the Guillemots and Razor-bills—or "Cutties," as they are familiarly called here—diving down and attacking them from below, while the Terns and Gulls pick them up and devour them on the surface. After three or four rapid beats of the wings, and then a long, graceful, undulating sweep, with them apparently motionless, the pretty Manx Shearwater, locally called the Mackerel-cock, now appears on the scene; and, carefully tucking away his long wings, sits down among the fry quietly to enjoy his meal. The cries and splashing of these birds quickly attract others from all directions, and among these one or two Skuas—always on the look-out for such opportunities—may be seen. The Skua singles out a bird which it observes to have been successful in fishing, and, swooping down upon its unfortunate victim, pursues it relentlessly, till the Gull

in terror casts up part of its food. This accomplished, the Skua, after picking up the dainty morsel, flies quietly away.

The attention of one of the bottle-nosed whales, some of which are generally in the Lough on such occasions, staying as long as the fry stay, will now be attracted ; and he generally puts an end to the fun by swallowing half the ball of fry at a mouthful.

In Harris's *History of Down*, I read the following quaint account of a "ball" of fry such as I have just mentioned :—

"In Carrickfergus Bay" (by which name Belfast Lough was then known) "and about the Copland Islands, when the Herrings and Fry are in their passage, great shoals are seen of Codd, Grey-fish, or Old Blockans, Gurnard, and Knowds, which are the Grey Gurnard, who all pursue their prey. It is pleasant to come within the play of those fish in a boat. The large fish attack the shoal, which in the day-time keep near the bottom, but for safety are often forced to the top, where the Gaunts, or Soland Geese, and other water-fowl upon the wing, observe them and give warning to their companions, so that in five or six minutes may be seen two or three hundred of these birds striking at their prey from a great height in the air, while the Puffins, Cormorants, and other water-fowl dive among them ; and the Codd and Grey-fish tumble about and leap in the water, without being frightened by the boat's crew, and rise so near that they are often struck with a gaff, or hook fixed at the end of a stick, and drawn into the boat."

This account is not quite correct, and I fancy Harris must have drawn the picture more from description than from observation. I have never yet happened to see a Cormorant among the birds attacking a ball of fry ; neither do any of the birds, not even the Gannets, or "Gaunts," as he calls them, strike from any height when preying upon them.

On 14th September, 1878, I took particular notice of the birds at a "ball" of fry. The Terns and Gulls were either sitting in the water feeding, or "dipping" at the fry from a slight elevation; three Gannets fishing in precisely the same manner, and not striking from any height or going below the surface. Gannets, in fact, work at a "ball" of fry just in the same manner as Gulls do, some sitting and some dipping at them.

Razor-bills and Guillemots very numerous to-day; as were also Grey Herring Gulls, Terns, and Black-headed and Kittiwake Gulls. No Puffins at all. One Black Guillemot. Saw two species of Skua. Three Guillemots and one Razor-bill that I shot were full to the mouth with fry. I have latterly lost no opportunity of further observing and noting what I could about the Skuas.

29th August, 1878.—Out fishing to-day; wet and stormy; birds very abundant; Black-headed Gulls numerous, tame, and very pretty. Saw several Skuas, some very near. Razor-bills and common Guillemots in great numbers; no Black Guillemots or Puffins.

7th September, 1878.—Out fishing mackerel; fine calm day. Saw very few Skuas.

7th October, 1878.—Mr. Glover and my brother William showed me to-day a Buffon's Skua which had been shot a day or two previously on a flax-hole (a small dam for steeping or retting flax in) near Lisburn, many miles from the sea.

On 13th October, 1879, Mr. Nelson shot two Pomarine Skuas (*Lestris Pomarinus*) near Holywood. He told me they had killed, and were in the act of devouring, a Gull. One was in dark-brown mottled plumage; the other had white about the neck, and some yellow through it (like the figure of this species given by the Rev. F. O. Morris in his *History of British Birds*, vol. vi., p. 174, second edition).

It was the latter that had killed the Gull, after a long fight. Its mouth, when shot, was full of the red, bloody flesh of the Gull, just like that of a hawk tearing up its prey. I got one of these birds, the brown (immature) one. On the following day, Mr. D. Brodie, B.A., of Worcester College, Oxford, who was out shooting from Holywood, on landing, gave his gun to a lad to take home. The latter went off first to some birds he saw; and he shot, not far from Holywood pier, four Skuas! Three of them are in, or resembling, the plumage of Morris's figure of the Pomarine, the other in the plumage of the same species in Yarrell, vol. iii., p. 485, first edition. I have no doubt all four are Pomarines.

22nd October, 1879. — Skuas must be unusually numerous here (*i.e.*, about Holywood) at present. A lad brought me one this evening which he had shot down at Craighdarragh to-day. It was the same as those last mentioned.

Contrast this with the year 1877, in which, although boating a great deal during the summer, I did not see a Skua till 1st October.

Dr. Saxby gives an admirable description of the Great Skua; and a humorous one of the species that he calls Richardson's; and I borrow from the latter. "The 'Shooi'" (as it is called in Shetland), he says, "is the very sauciest bird in all the sky. . . . It is not every bird that can enjoy a joke, and the Shooi really does seem to appreciate one thoroughly. It is as good as a comedy to witness his outbreak of high spirits as he suddenly sweeps up into the air, with a taunting cry, half-peacock, half-tom-cat, and leaves far behind him the bewildered stranger whom he has befooled hopelessly off the track of the nests by his admirable simulation of broken leg, broken wing, and broken

prospects in general. There is not an ill that bird-flesh is heir to which the Shooi cannot convince you he is afflicted with. . . . Then, again, to watch the bird among the Gulls is a continual source of amusement. The robber sails smoothly about, on the look-out for a meal, and at last sees a poor, industrious old Gull carrying home a dinner or a supper to his family, and at once gives chase. No sooner does the Gull perceive that he is the object of attention, than his wings begin to beat with more than their customary rapidity; the Shooi glides after him like an arrow, and the Gull, finding his enemy close upon him, drops suddenly for a yard or so. This causes the other to overshoot the mark, and as he turns back, the Gull reascends, and the Shooi passes under him. In this way they continue for some little time, . . . the Gull jabbering all the while, . . . and the Shooi sticking to him as close as slander.

“Presently Shooi gets impatient. He goes straight at the Gull; . . . all is confusion for a moment; there is a squall from the big stupid of a Gull, and down goes the fish, and down goes the little Shooi after it, snapping it up long before it reaches the ground or the water, and making off with it in triumph, almost winking at you as he passes. The great, blundering Gull flaps sulkily away, uttering discontented and rueful notes which would try the gravity of a judge; its queer gruntings and croakings seeming almost to shape themselves into an aspiration that the fish may do anything but agree with the stomach of its new proprietor.”

Dr. Saxby continues a most interesting notice by describing how these Skuas will attack and drive away dogs that come near their nests; how he saw on one occasion a Skua tearing to pieces a plover; on another a Skua swooped, as a hawk might have done, on a golden

plover; and on another, how he saw a pair of them attacking a white-tailed eagle; and other interesting particulars follow. The Skuas all breed in Shetland; but the Great Skua, Dr. Saxby considered, was rapidly disappearing.

I lately mentioned one of the Shearwaters, and shall now notice this genus. Strictly speaking, it contains only two species, but it is closely allied to the Petrel. These two species are the GREATER SHEARWATER (*Puffinus Major*) and the MANX SHEARWATER (*Puffinus Anglorum*). The former is extremely rare here: so much so that, so far as I know, with the sole exception about to be mentioned, there is no instance on record of this bird being obtained in this lough or neighbourhood. Mr. Thompson, for so many years a painstaking, close, and most accurate observer, had never seen it. The records of its capture in other parts of Ireland are very rare, and some of them not well authenticated.

It is therefore with much satisfaction that I make the following extract from my own notes:—Wednesday, 29th September, 1869, out in John Scott's boat from Bangor with my friend Mr. Mulholland. We fished some mackerel and knowds, and shot two Gulls and a Gannet. It rained awfully. I was lying down in the bows of the boat trying to keep myself dry, when Scott drew Mr. Mulholland's attention to what he thought was a Skua in the water ahead of us. I had never shot a Skua, and was very anxious to get one; so Mulholland called me to get up and be ready; but I refused to stir, and told him to shoot it himself. Very fortunate I did so, for had I taken the gun I should likely have missed it, and might never have known what a prize was almost within our grasp. Mr. Mulholland got out my large gun; and, on the bird spreading its wings to take flight, he fired, and, as usual

with him, with fatal effect. The bird was not quite dead, and dived, but very badly, trying to elude capture. I have seen a winged Oyster-catcher, which is not a swimming-bird but a wader, dive far better. Well, this bird, that I was so careless about, was really a Greater Shearwater, and a beautiful specimen. It is stated in the very nice and creditable *Guide to Belfast*, by the Belfast Naturalists' Field Club, published for the British Association Meeting in 1874, that "the Greater Shearwater is extremely rare, one specimen only having been procured in Belfast Lough by Mr. Robert Lloyd Patterson:" but "honour to whom honour is due," it was Mr. J. R. T. Mulholland, and not the other gentleman named, who shot the bird. I wish publicly to renounce it in favour of him to whom it properly belongs, and I am sorry that the statement quoted got, I know not how, into print. Mr. Mulholland, however, gave me the bird, and I prize it very highly. It was beautifully stuffed for me by Mr. Darragh, of the Belfast Museum, who is one of the best bird-stuffers in the three kingdoms.

The other species, the Manx Shearwater, is more common, examples occurring every autumn in the Lough; so that Yarrell's statement, that "it is only an occasional visitor to Ireland," would be incorrect as applied to the present time. These birds are about the size of a pigeon; their plumage is black and white, and their form and appearance peculiarly elegant and graceful. In a little pamphlet printed in 1873, I spoke of seeing these birds off Ardnamurchan Point, in Argyshire, and in Sleat Sound, between the island of Skye and the mainland, in Inverness-shire. "Occasionally," I said, "three, four, or five of the Manx Shearwater would fly across our bows, their long, powerful wings supporting their light, elegantly-shaped bodies, apparently without an effort, as they swooped gracefully from side to side, keeping

almost continually at the same height from the surface of the water ; hence their very appropriate name of 'Shearwater.' The long, graceful sweep of these birds reminds one of the easy movements of an accomplished skater, as he skims on the outside edge of each foot alternately, from side to side, on the frozen surface of a sheet of water." This was on 29th June, 1873.

On the 20th and 22nd June, 1875, I saw these birds in Sleat Sound and in the Minch, thus describing their appearance at the time, "Almost every succeeding day during the voyage the eyes of the writer were gladdened by the sight of some of his special favourites, the Manx Shearwaters." Their beautiful and powerful, yet easy and elegant flight, which I have already tried, but failed, properly to describe, always excites in me feelings of admiration; but I never saw it to greater advantage than in Sleat Sound on the 20th. After seeing them singly, and in twos and threes, I saw not less than five-and-twenty of them in a flight together, dipping on fry, which a number of Common Guillemots and Razor-bills were feeding on. The Shearwaters flew easily along, with great wide swoops from side to side, at times disappearing behind the crest of a wave, then shooting up almost perpendicularly into the air, soaring motionless for a moment, and then swooping down again. Off Ardnamurchan Point, on 23rd June, they were again seen to great advantage.

Some years ago, the 19th August was the earliest date that I had observed them here in the Lough ; but since then I saw them on 8th and 19th July, and 10th and 12th August, 1876 ; on the 14th and 21st July, and 25th August, 1877 ; and one as early as 29th June, 1878. I have seen them most frequently here in August and September, and have shot them four or five times altogether.

As may be inferred from the name "Manx"—which name they have borne for a long time, for I see Harris (1744) speaks of them by it—they were formerly very abundant about the Isle of Man. In the *Ornithology* of Francis Willoughby, Esq., F.R.S., published in 1678, it is spoken of as "the Puffin of the Isle of Man;" and this author says, "At the south end of the Isle of Man lies a little islet, called the Calf of Man, on which are no habitations, but only a cottage or two lately built. This islet is full of Conies, which the Puffins, coming yearly, dislodge, and build in their burroughs. When the young are come to their full growth, they who are entrusted by the lord of the Island—the Earl of Darby—draw them out of the Coney holes. They usually sell them for about ninepence the dozen, a very cheap rate. Notwithstanding they are sold so cheap, yet some years there is thirty pounds made of the young Puffins taken in the Calf of Man, whence may be gathered what number of birds breed there." At ninepence the dozen it would require 9,600 birds to amount to thirty pounds, so the numbers breeding there must have been very large. For many years now, however, they have entirely deserted this once favourite locality. Mr. Yarrell gives a very interesting description, from the pen of Mr. Mitchell, of the appearance of this bird in the Scilly Isles, on some of which they breed in considerable numbers. Mr. Gray, in his *Birds of the West of Scotland*, mentions several nurseries of this species among the isles; but they cannot hold their ground against the true Puffins, when these pugnacious little birds covet their neighbours' habitations. Mr. Gray says he has often seen numbers of them "hovering like swallows over a turbulent sea off Ardnamurchan," and has invariably regarded their flight with feelings of admiration; and he adds, "No one who has really watched them with

pleasure will, I think, deny that this is one of the most interesting sights a yachting naturalist can enjoy."

In the summer of 1868, going from Liverpool to Queens-town in the Inman steamer "City of Baltimore," I had a most favourable opportunity of observing the easy flight of these birds in a strong breeze and over a heavy tumbling sea in the Channel.

I differ distinctly from those authors who say that the Manx Shearwater is only a night-feeder; I have frequently seen them feeding in the day-time, and have shot and picked them up more than once with herring fry in their mouths.

The STORM PETREL, or Mother Cary's Chicken (*Procellaria Pelagica*), I have only seen twice in this lough. Unfortunately, I did not note the date of the first occasion, but believe it was in August, 1868. Fishing on a sunken wreck, the "Monteith," lying nearly half-way between Bangor Bay and Whitehead, two small birds, of graceful shape, and dark plumage with a little white in it, kept hovering about twenty to thirty yards astern of us, seeming to pick up little bits of bait which the tide carried down towards them. The birds were unknown to me, but were at once recognised and named by one of my party, as well as by the boatman, both of whom were familiar with the bird from having seen it at sea.

Again, on 30th June, 1877, fishing on the sunken wreck of the "Reindeer," between seven and eight o'clock in the evening, I saw a Storm Petrel, near and often enough to be perfectly certain of it. I thought the incident sufficiently interesting to send a notice of it at the time to the *Field*, the editor of which paper very obligingly inserted it on July 7th.

Mr. Thompson has but one or two records of this interesting little bird being seen in Belfast Lough, although

he mentions several instances of specimens being procured in the neighbourhood, particularly after severe storms. During the memorable gale of January, 1839, a Storm Petrel was picked up alive in one of the streets of Belfast; and for several days after that, individuals of this species were procured at many places in this province and throughout Ireland generally. That gale was from the N.W. and W.

Very probably several of these birds, found here and throughout the province after the great gale of 1839, had been blown across Ireland from the wild Donegal coasts and off-lying islets, where they are constant residents. I remember hearing the late Mr. George C. Hyndman mentioning the Storm Petrels in a lecture which he gave on "A Visit to Tory Island," a small islet lying off the coast of Donegal, a great many years ago, perhaps about 1845 or '46. Mr. Hyndman described them as very abundant on Tory Island, where several specimens were obtained for a trifling reward offered to some young boys, who procured them by thrusting their hands down the holes that the birds had burrowed to make their nests and hatch their young in. They also build—or rather lay, for they construct hardly any nest—under and among the stones on the beach, where their presence can be detected by their musical chirping, and whence both old and young are easily procured, and make, I believe, very interesting pets.

In connection with Mr. Hyndman's lecture on Tory Island, I remember he mentioned having offered an extra reward for a specimen of the Fork-tailed Petrel—all those obtained having been of the commoner species, the Storm Petrel. In a remarkably short time the wished-for bird was produced, and the reward claimed; but the shortness of time required to procure this rare bird

provoked suspicion, and this led to examination, when it was discovered that the ingenious youth had, acting on the principle of demand regulating supply, made the Fork-tailed Petrel to order on the moment by pulling out the middle tail-feathers of one of the commoner species, and thus leaving the tail forked !

CHAPTER V.

GEESE : MERGANSERS AND GOOSANDERS.

Loud were their clamouring tongues, as when
The clanging sea-fowl leave the fen.

MARMION.

WE now pass to the *Anatidæ*, the first-named and most numerous family among the swimming birds. It comprises eight genera, and about forty-five species recorded as British, not all of them as Irish. Many of these, however, are extremely rare, and with these rarities we have at present nothing to do.

The principal divisions of the *Anatidæ* are the Geese, genus *Anser*; the Swans, genus *Cygnus*; the Surface Ducks, genus *Anas*; and the Ocean or Diving Ducks, genus *Fuligula*. The four smaller divisions are—first, the Shelldrakes, genus *Tadorna*; secondly, the group comprising the Eider Duck and one or two other varieties, genus *Somateria*; thirdly, the Scoters, genus *Oidemia*; and lastly, the genus *Mergus*, comprising the Goosanders and Mergansers, which are among the handsomest of all British birds.

Of the first family, the BRENT GOOSE (*Anser Brenta*), commonly called here the Barnacle, is the only one I can speak of as common in this lough, and its numbers here have suffered immense diminution of late years. I regret having myself recorded little of interest regarding this species, but I shall give part of one of my notes, which includes a mention of it.

Saturday, 21st January, 1871.—High water at 11.10

a.m. Went out in a little boat from Holywood at half-past ten in the forenoon. Strong southerly wind, veering, as we got up towards Belfast, to S.W.; and afterwards, when about two hours' ebb had run, backing to S.E., with heavy squalls of rain and sleet. We sailed across the Lough, above the Lighthouse on Holywood Bank, past the Stone Beacon, starting a paddling of seven Ducks on the way, and went in over the banks between the North Twin Island and the Northern Counties Railway. Here we began to find the birds, and started a Red-throated Diver, out of shot, however; next several Scaup Ducks, singly and in couples. The first large paddling we came to was one of Tufted Ducks, consisting of 200 or more. They rose about 130 to 150 yards off. This was exactly off Seaview House, and about a quarter of a mile from the shore. From this, where we went on the other tack, right down along to Whitehouse, there were flocks after flocks, in amazing numbers, of Scaups, Widgeon, and Wild Ducks; and there is no exaggeration in saying that, from off Seaview to off Whitehouse, we saw above five thousand of the above-named species. Hauling then across to Holywood—which we were not able to fetch with the strong ebb tide on our weather, and had a severe pull to make—we fell in with a gaggle of about thirty Brent Geese, which took wing, as did indeed all the birds we saw, long before we were within shot.

The weather to-day was bitterly cold, and the showers of sleet were frequent and very severe. My companion's hands became so numbed with cold, he could not load or cap his gun. His long hair, straightened with the wet, hung down limp round his head, and gave him a ludicrously miserable appearance. I am sure he thought the questionable pleasure of being out boating on such a day very dearly bought. Although I, on the contrary, enjoyed the

day immensely, I am sure my own appearance on landing was quite as miserable as my companion's.

Mr. Thompson gives a long and interesting description of the appearance of the Brent Goose in this lough, the numbers in which it was formerly found, and their pursuit by the wild-fowl shooters. They are still tolerably abundant, their numbers, however, varying a good deal in different years. On 18th October, 1879, Mr. Brodie, out boating from Holywood, shot five of them with an ordinary shoulder-gun. On 27th March, 1879, on a cold, snowy day, I saw about sixty in a flock together, near Sydenham, County Down.

Thompson very naturally attributed the abundance of Brent Geese—locally called, as I mentioned, Barnacle—in this lough, to the extent of suitable pasture afforded by the great expanse, on both sides of the Bay, of mud banks covered with the sea-grass, *Zostera Marina*, the extent of which is now, however, much diminished. Ancient as well as modern authors agree that it is to the sweet roots of this sea-grass being the principal food of the Barnacle its excellence of flavour is due. It is well known that the Barnacle of this and similar localities is much superior in tenderness and flavour to those procured in many other places, where different food gives the flesh such a fishy taste as to render it unfit for the table. His Grace the then Archbishop of Dublin, in a paper communicated to the Royal Society of London early in the last century, and published in a *Natural History of Ireland* in the year 1726, says that "in most places Barnacles are so rank, that no curious palate can dispense such unsavoury food; but in other places they have a most delicious relish. . . . This is the case of the Barnacles at Londonderry and Wexford; and I hear the same of those at Belfast." In Harris's *History of Down*, the author speaks

of the same thing in connexion with this bird, saying—
“ All along the flat oozy sands from Three Mile Water to Belfast and Holywood grows a very sweet grass, affording food to great flocks of these birds . . . which are as good here as in any part of Ireland.”

Mr. Thompson, among others, speaks of the voices of the Brent Geese resembling the cry of a pack of hounds ; and he alludes to it in an interesting note. It seems that Audubon had heard of the note of the Brent Geese being compared by another American ornithologist, Wilson, to the sounds produced by a pack of hounds in full cry ; but he (Audubon) could not detect the resemblance. “ True,” says Thompson, “ when the cry is borne directly to one from a flock of birds swimming in order, it is not sufficiently varied to be musical ; but when the birds are veering about on wing, or swimming in different directions, it strongly resembles what Wilson has compared it to. But I shall call a witness,” continues Thompson, “ that under cross-examination will not break down. March 8th, 1840 ; riding from Belfast to Holywood at high water, opposite Clifden and very near the shore were perhaps 500 Brent Geese in a flock, keeping up their usual concert like the music of a pack of hounds in full cry. The moment that, borne on the gentle gale, my horse heard it, he became quite impatient, as hunters do on hearing the hounds at a distance, and continued very spirited and restless so long as he was within hearing of the sound, just as he would have done had it proceeded from a genuine pack. Thus we have the acute hearing of the horse bearing testimony to the resemblance.” These birds were sometimes so very abundant in this lough, that their long, solid masses were compared to “ highways on the water ;” and at such times the fowlers spoke of “ shooting along a mile of them.” Twenty-five of them

and upwards have been killed at single shots from a swivel-gun.

From the foregoing it is evident that the numbers of Barnacles now visiting our Bay are nothing as compared with what they were; but large tracts of what were formerly the feeding grounds of these birds have been enclosed by the railways on both sides of the Bay, and by the reclamation of the slob lands. Add to this the constant disturbance caused by the steamers. So, although we may in a measure regret, we cannot wonder at the gradually diminishing numbers of the Barnacle.

None of the other species of Geese recorded as Irish, of which there are about eight or nine in all, are common in the Bay. The BERNICLE GOOSE proper (*Anser Bernicla*) is occasionally, but rarely, met with here. I was shown in January, 1875, a fine specimen of this bird which had been shot in Donegal, in which county Mr. Thompson had recorded its not unfrequent appearance.

A pair of Bernicle Geese, kept in captivity on a pond near this town, brought out young broods on more than one occasion. The last of which I can speak from personal knowledge was in 1872, when four young were produced. These young birds, in the following spring, were almost as large as their parents, and had precisely similar plumage. They were not pinioned, and could fly perfectly well; but did not desert the place of their birth.

The EGYPTIAN GOOSE (*Anser Egyptianus*) has also been occasionally procured in the Bay; but Thompson, with his usual scrupulous accuracy, hesitated admitting its claims as a regular Irish species, on the ground that the individuals of it now and then procured had probably either escaped from confinement, or been the progeny of captive birds. On the 15th of February, 1875, Mr. Alex. Meenan of this town shot a fine bird of this species at the

north-east corner of the so-called People's Park, where Connswater river flows into the Lough. Mr. Meenan told me there were four of the birds in company.

On 1st January, 1878, a fine bird of this species was shot near Owen O'Cork House by a man in the employment of my friend Mr. W. J. McCann, who very kindly made me a present of it.

I was especially interested in hearing of and seeing this species here, having been familiarised with it by the frequent allusions to it and others of its congeners in Sir Samuel Baker's books of African travel, particularly in his *Albert Nyanza* and *Ismailia*.

Mr. Baldwin, whose very entertaining book on African Hunting I sometimes refer to with pleasure, also speaks of the number of Wild Geese, of which he names three species, that frequent suitable localities in South Africa, both inland and on the coast. The crocodiles on some of the rivers and bays there are so bold and voracious that they snap up, from before the hunter's eyes, Geese that have, on being shot, fallen into the water. A winged Goose, on being chased by three crocodiles, preferred throwing itself on the tender mercies of the sportsman rather than trusting to the generosity of the reptiles, and permitted Baldwin to capture it alive. On another occasion, Mr. Baldwin venturing into the water to recover the third Goose he had shot—the two first having been snapped up by the crocodiles—caught it by the leg: a crocodile seized the bird almost at the same moment, and between them they tore it in two!

From South Africa to Novaya Zemlya is a wide step, about six thousand miles, but easily got over on paper. Professor Von Baer stated the Wild Geese frequenting the latter country in the summer season to be so numerous that "expeditions are sometimes sent thither to kill and

salt them. Fifteen thousand Geese were killed there in two hunts."

We shall now have a glance at the genus *Mergus*, the Mergansers, containing four species. None of them are common here, the Red-breasted Merganser (*Mergus Serrator*) being only tolerably so. The Hooded Merganser is almost unknown in Ireland. The Smew or White Nun (*Mergus Albellus*) is also rare—in fact extremely rare—in the North of Ireland; and having never met with it here myself, I dismiss it also with this passing mention.* The Goosander is sometimes met; so to this and the first mentioned species of the genus I shall devote a little space.

The RED-BREASTED MERGANSER when in full plumage is a very handsome bird, and is eagerly sought for on that account, although of no value for the table. I have a good specimen which I found lying dead on the point of the Kinnegar, at Holywood, in the month of January, 1862; since that, I have every now and then seen them in the market here, but only at rare intervals. On 11th February, 1871, I saw one which Mr. William Anderson of Holywood had shot that day with his punt gun off the Kinnegar.

On the 21st February, 1873, I procured a very perfect specimen which had been shot the previous day near Craigavad; and on the 26th February, 1875, Mr. Alexander Meenan of this town kindly sent me a handsome bird of this species which he had shot that morning in the reclaimed but almost waste land called, as if in derision, the "People's Park."

* Since the above was written, I was fortunate enough to procure, from Mr. Sheals, Corporation Street, Belfast, a perfect and well-stuffed specimen of an adult male Smew, which had been shot at Lough Neagh.

On the 27th September, 1879, Mr. Brodie, already named, and Mr. J. Mason Mulgan, B.A., also of Oxford, brought me a Red-breasted Merganser, one of four they had shot that day out of a flock of fourteen out from Holywood. About this time, and later on into the autumn and winter, these and other birds were very abundant in the Bay, and some rarities were procured, among them the Pomarine Skuas, already mentioned, and two Long-tailed Ducks, which shall be further alluded to later.

These singularly handsome birds, both the Merganser and the Goosander, are said to be very gluttonous. They have a longish straight bill, with the point of the upper mandible curved downwards, overlapping that of the lower, and forming a blunt hook. The edges of both mandibles are furnished all along with small teeth, like those of a fine saw, the points of the teeth being directed inwards, or rather backwards—hence they are sometimes called "Saw-bills." They have broad webbed feet, and are most expert divers. An admirable description of these birds and their diving powers is given, under the heading "The Magic Merganser," in Mr. William Black's *Madcap Violet*, chap. xxii. Their food is principally sand-eels—of which they seem particularly fond—small fish, and crustacea. These their diving powers enable them to capture, and their serrated bills to hold, with ease and certainty. Speaking of their gluttony, Dr. Ball of Dublin reported getting one "gorged to the mouth with sand-eels, twenty-four of which were found in it;" and Mr. Poole of Wexford got one full to the throat with crustacea. Jennings has mentioned in rhyme this peculiarity of theirs. He says—

"Mergansers came many, with fish in their throat,
By gluttony prompted their bodies to bloat."

Of the other species of *Mergus*, the GOOSANDER (*Mergus*

Merganser), which I said was only sometimes met with here, Folkard says—"This is an exceedingly beautiful bird. . . . The flesh is not palatable, but the skins are often sold at high prices." My own notes on this species are very scanty. I have, thanks however only to the kindness of friends, got a fine pair of them. One, the female, was shot on Strangford Lough, on the 19th November, 1869, and bought the day after in Belfast market. The other, a male, and one of the handsomest birds I ever saw, was shot during a severe frost on the river Lagan, three miles from Belfast, on the 31st December, 1870, by Mr. Lawson A. Ferguson, of Newforge, who most kindly presented it to me.

Mr. Thompson records several appearances of the Goosander in this neighbourhood, saying it "is probably an annual winter visitant, but in very limited numbers."

CHAPTER VI.

SWANS.

"The Swan, with arched neck
Between her white wings, mantling proudly, rows
Her state with oary feet."

MILTON'S *Paradise Lost*.

BEFORE proceeding to the familiar Ducks and their more immediate relatives, the stately Swans demand mention ; although, as regular frequenters of the Lough, they are rarely now seen. I have, it is true, during severe frost seen Swans in the Bay ; but I believe these were generally birds of the domesticated species, which, frozen out of their usual fresh-water pond homes, had sought the open water of the Lough.

These tame birds, under such circumstances, often fall victims to their over-confidence in man ; and I have heard of several instances of their being shot, sometimes through ignorance or inadvertence, but sometimes, I regret to say, with "malice aforethought."

I heard a ludicrous description of the unintentional shooting, and subsequent disposal, of two tame Swans a few years ago. A friend of mine, who under the circumstances had better be nameless, was informed one day, when a dense fog happened to prevail during hard frost, that there were some Wild Geese close to the shore, near Thomson's Bank. Getting his gun, he proceeded to the place indicated, and there saw the supposed Wild Geese disappearing into, and reappearing out of, the fog, through which they loomed an enormous size. Procuring a boat,

my friend and his informant went in pursuit, and two birds (there were no more) were shot as they rose successively from the water ; but—to the shooter's no small regret at having killed them, and mortification at finding they were *not* Wild Geese—they turned out to be two tame Swans. "Oh," said he, "these are Mr. —'s Swans! What's to be done?" "Never mind, sir," said the man ; "nobody knows : I'll hide them now, and bring them up to your house after night." To this, however, the shooter would not consent ; and he was going to tell the supposed owner of the unfortunate mistake, and offer to replace the victims, when he was agreeably surprised to find this gentleman's Swans swimming composedly about in their own pond, which was not frozen in consequence of its receiving an inflow of hot water. So nothing was said of the double murder ; but the sequel was funny enough. The shooter sometime afterwards asked the man who had first told him about the birds what he had done with them, when the latter replied—"Well, sir, you see you wouldn't have them, and so me and some other men went for them at night ; and we cut them into quarters, and played for them at the cards."

In a more recent instance, a local character shot a Swan which he knew was a tame bird, as he had been told, when going out, that a gentleman's Swans were at large in the Lough, being frozen out of their own pond. I had seen them several times on Holywood banks and in the neighbourhood, their size and brilliant white plumage making them conspicuous objects even at a great distance.

Besides, however, when they are frozen out, tame Swans, although bred in partial confinement, if not pinioned, take wing and make long journeys. My friend Mr. J. Luard Pattisson wrote me from Clandeboye on 6th March, 1880:—"A pair of our Swans that have had their liberty several

years, never having been pinioned, have come back two years in succession to breed here. They often leave us for two or three weeks at a time, sometimes I think for much longer ; and it speaks well for the country, where shooting of all sorts is in vogue, that these beautiful birds have not been molested. It is a splendid sight to see them flying about almost like tame pigeons."

I have on a few occasions, perhaps only two altogether, seen Swans on the Lough that I believe to have been wild. Once I was out boating, about the middle of March, 1862, when seven Swans flew over the Lough, high in air, and proceeding northwards, looking " like a long white ribbon," as that prince of story-tellers, Hans Christian Andersen, has so aptly described them. And on another occasion, about the same time, I saw a solitary individual flying about the Bay. Many domesticated or half-domesticated water-fowl, however, it must be remembered, often become very restless, and wander about a good deal, when the time for the usual spring migration arrives.

In former years, when this town was smaller, and when the steamers that ply on, and the railway trains that run at both sides of, the Lough, and which cause such a ceaseless disturbance, were yet unthought of, Wild Swans not unfrequently visited the Bay.

There are two species of Wild Swan known to visit Ireland regularly, and of these Mr. Thompson considered Bewick's Swan to be of the most frequent occurrence, more so than the Hooper. He has recorded an instance when a flock of about eighty Wild Swans appeared in Belfast Bay, where they remained some days ; and again he states that for some days in January, 1838, four or five Hoopers (*Cygnus Fervus*), or "Great Wild Swans," frequented Connswater ; and several were observed at the same place in January, 1849. These fine birds were

frequently seen in severe winters in the neighbouring loughs of Larne and Strangford, as also in Lough Neagh—where the Rev. George Robinson reported the appearance of a flock of a hundred in the winter of 1875-76—and in other suitable localities all over Ireland.

That Wild Swans were formerly very abundant in this country there is ample proof. Writing so long ago as the year 1589, Robert Payne says in his *Brief Description of Ireland*—"There be great store of wild swannes—much more plentiful than in England."

Harris, in his *History of the County Down*, says that numbers of Wild Swans bred in the islands of Strangford Lake. They are, even now, not uncommon in Lough Swilly, visiting it, and other of the less frequented bays in Donegal, still almost every winter.

To-day, 11th March, 1880, I had an opportunity of seeing a very fine specimen of Bewick's Swan, which was shot on 19th December last (1879) by my friend Mr. Harry Musgrave, on Lough Auya, on his brothers' estate, in the Parish of Glencolumbkille, Co. Donegal.

More recently, February, 1880, a Swan, supposed to be a wild one, was shot near Bloomfield, Belfast, the residence of my friend Mr. W. H. Moreland. I have not seen this bird, and am therefore unable to say anything about the species, or do anything beyond simply recording the circumstance.

In recent years some lakes in the Co. Down were visited by small flocks of these birds. On the 17th February, 1871, my friend Mr. C. W. Murland, of Castlewellan, told me that there was then, and had been for some time previously, a large flock of Wild Swans at Killough, Co. Down, where the agent of the property would not allow them to be molested, so they remained a considerable time. Mr. Murland said there were thirty-one or thirty-two

individuals in this flock, of which ten were cygnets. In the same month I saw several Wild Swans in Leadenhall Market, London; the poulterer telling me that he had received a large number that season (which was a severe one) from Norfolk. These noble birds are distributed all over Northern Europe and America. Mr. Lamont, M.P., in his book, *Yachting in the Arctic Seas*, makes frequent mention of Wild Geese of various kinds, principally Bernicle and Brent Geese, but says less of the Swans.

On the west coast of Novaya Zemlya (by which name I see both Mr. Lamont and Professor Nordenskiöld call the country that in my school days was generally known as Nova Zembla), and at the 72nd degree of north latitude, lies the region called Gooseland. The two extremities of this part of this strange country are called respectively North and South Goose Capes, and behind the former lies the comparatively secure anchorage of Goose Haven. "Gooseland," says Mr. Lamont, "forms the westernmost part of Novaya Zemlya, and is a level plain of about fifty miles by twelve, lying between the mountains and the sea. Viewed from the crow's-nest, it appeared a dreary expanse of coarse, swampy pasture, interspersed with half-frozen lakes and ponds; the latter swarming with Geese and Swans, and the grassy meadows with reindeer, all enormously magnified by the mirage, and appearing as if close to the shore, whereas miles of impracticable marsh intervened. A long line of low dark hills, now nearly clear of snow, and running north and south, or parallel to the sea, formed the background;" and he adds, speaking of the prospect from their anchorage, "anything more frightfully gloomy and desolate could not be imagined." This was on 12th June, 1869. On 20th July in the following year Mr. Lamont writes—"We were abreast of Gooseland, now a tract of emerald green meadows sloping gently to the

sea. In the background we could just trace the dark wall of hills, and with a glass from the crow's-nest could see the vast plain dotted with reindeer, and here and there lakes and ponds full of Swans and Geese."

In a lengthened account of those islands, and of Spitzbergen, Mr. Lamont makes but few other allusions to seeing any Wild Swans, but speaks of their being abundant in the island of Kolguev, where Samoyede hunters in the autumn sometimes kill large numbers of them. Colonel Hawker, and more recently Mr. Folkard, have both described, as sportsmen, the glories and excitement of Wild Swan shooting; and to the works of those indefatigable gentlemen I must refer any of my readers who want further information on that branch of the subject.

Mr. John Colquhoun, of Luss, in his book, *The Moor and the Loch*; Dr. Saxby, in his *Birds of Shetland*; and Mr. Robert Gray, in his *Birds of the West of Scotland*, all speak of the Wild Swans: the first-named author, of their appearance on the larger fresh-water Scotch lakes; the second, in the Orkneys and Shetlands; and the last, in the western islands generally, but particularly in the outer Hebrides: I shall quote briefly from the two latter. Dr. Saxby gives an interesting description of a Hooper, which was captured by a poor Shetlander, and kept by him two years, in which time it became strongly attached to some members of his family, and to his pony, which it followed about everywhere.

This was a most interesting pet. After some little time spent in captivity, it became so tame as to be allowed complete liberty, when it spent much of its time in the sea. "After about two years," Dr. Saxby concludes, "it had become so tame that its wing-feathers were permitted to grow; a sad mistake, for one evening in spring, at which time the flocks were returning northwards, it disappeared,

and was never seen more. . . . It was mentioned, as a remarkable fact, that only the day previous to the Swan's disappearance, a visitor had, while looking at it, strongly urged its owner to send it south, where he would be sure to receive a handsome price for it." On Dr. Saxby asking his informant whether she seriously believed that the bird's departure was owing to its having heard what had passed, she merely shook her head and replied—"Weel, no just that; but wha can tell? It was odious sing'lar, at ony rate!"

Mr. Gray says that the Hooper "generally arrives in the outer Hebrides in November, although in some years earlier. . . . On Loch Bee, in South Uist, which is never known to be frozen over, they are especially numerous in severe weather, as many as four hundred having been seen there in one flock. This lake is quite shallow at the north-western extremity, and affords the birds ample feeding ground, so that it becomes a general rendezvous for many weeks. They are not much molested, as, unless the birds are very near the shore when fired at, it is almost impossible to capture any that may be wounded, the lake being several miles in circumference, and deep and cold enough to deter any ordinary human retriever, even after getting fairly under weigh. Ten minutes' experience in Loch Bee would convince the bravest man or dog that a wounded Swan there might as well be in the Minch. About the middle of April the noble congregation breaks up into detachments, and after much sounding of bugles, summoning the feathered hosts into the air, they soon get into their line of flight, and are afterwards seen at a great height steering for their northern home."

Mr. Gray mentions in detail several other of their haunts, which I need not now enumerate; and he relates that a Wild Swan, that was caught and pinioned, has lived on Loch Guirm in Islay for over thirty years.

On the mainland of Scotland, flocks occur regularly in various districts. "Numbers appear in Loch Lomond, especially in severe winters; and it is still more common at Lochwinnoch, in Renfrewshire, where about fifty tame Swans are kept. . . . Attracted by these birds, the Wild Swans often alight in parties of six or eight, and are soon recognised by their alertness and inferior size."

I have seen the fine fleet of tame Swans to which Mr. Gray alludes, at Lochwinnoch, the property of Henry Harvey, Esq. of Castle Semple, and never saw Swans to more advantage.

Mr. St. John has recorded seeing nearly three hundred Swans in the bay of Findhorn, in Morayshire; and says that when they all rose in a cloud, at but a short distance from him, they presented a magnificent sight while on the wing.

I suppose there is a larger number of Swans now kept on the Thames, from about Kew Bridge up, than any other place in these countries. These on the Thames are the property of Her Majesty the Queen, and of two of the great London companies or guilds—the Vintners' Company and the Dyers' Company. A few years ago, these three proprietors owned about seven hundred Swans on the Thames. Mr. Yarrell gives a number of interesting particulars about old laws and customs relating to Swans, some of which are still kept up. The earliest legislation that he mentions with regard to Swans goes back to the year 1483, and the reign of Edward the Fourth. At that time, and long subsequently, no one who did not possess a certain amount of freehold property was permitted to keep any Swans. The punishment for taking or stealing a Swan's egg was imprisonment for a year and a day, and a fine at the King's pleasure. The King appointed a king's swanherd; and each person or company authorised to

keep Swans had the right of appointing a swanherd to look after them ; but they could not appoint a new swanherd without the King's swanherd's license ; and every swanherd on the stream was bound to attend upon the King's swanherd upon being summoned, or suffer fine for non-attendance. The Swans belonging to the different owners were publicly marked with what were called Swan marks, cut on the bills of the birds with a sharp instrument. Mr. Yarrell figures sixteen of these Swan-marks.

On the first Monday in August in each year, the ancient custom is, I believe, still kept up, of the two companies named proceeding up the Thames with the Royal swanherd's man, and their own swanherds and assistants, for the purpose of catching and marking all the cygnets of the year.

From a different source, Folkard's *Wild Fowler*, I learn that by old Swan laws, many of which are still unrepealed, a Swan was regarded as a Royal bird, as a sturgeon is a Royal fish ; and all Swans in the United Kingdom which are not the defined property of individuals belong to the Queen.

All Swans not marked and at large may be seized for the Queen's use. If a male and female Swan, belonging to different owners, pair and bring forth a young brood, the cygnets belong to, and must be divided equally between, the owners of the parent birds.

If Swans hatch a brood upon land other than the property of their owners, the proprietor of the land has a right to one-third of the brood, for his sufferance in permitting them to remain undisturbed.

Swan-marks are not legal without a grant ; but the owner of a Swan-mark may transfer it by deed to another.

Some of the peasantry in both Ireland and Scotland

have superstitious feelings about Wild Swans. The late Dr. Ball of Dublin mentioned seeing a flock of twenty-seven on a lake in the County Mayo, and he could not persuade any of the fowlers to shoot one of them, as it was believed in the district that something dreadful had happened to a man that shot a Swan. Mr. Gray mentions that a few years ago a wounded Swan remained throughout the summer on Loch Bee, in Uist, where it attracted much attention by its continued loud and melancholy cries : and he adds—"An old crone, in telling me about this bird, reiterated her conviction that it was the ghost of her grandmother who had met with a violent death about sixty years previously."

CHAPTER VII.

HELLDRAKES—PINTAILS—WIGEON—WILD DUCK—
TEAL, ETC.

Vainly the fowler's eye
Might mark thy distant flight to do thee wrong,
As darkly painted on the crimson sky
Thy figure floats along.

BRYANT.

THE numerous and important family of the Ducks now claims attention. This family is divided by some into sub-families—1st, the Surface Ducks, including the Mallard, Wigeon, and others; and, 2nd, the Ocean or Diving Ducks, the latter being further sub-divided into three genera.

Hopson mentions twenty species of the two sub-families that have been found in Ireland; but of these, only four are rare, while six are so extremely rare as not to require notice at present.

Of the remaining ten species, the SHELLDRAKE (*Anas platyrhynchos*) comes first in order of classification; and it also commands priority from its size and handsome plumage, its brilliant colours being well defined and strongly contrasted. Though formerly occurring every year, and breeding with great regularity in August, in this lough, Shelldrake has latterly been of rather rare occurrence. On 20th September, 1879, I saw a flock of ten between Tillysburn and the Kinnegar embankment. They were flying parallel with the train a little distance, and then alighted in the water. During many years I had only once previously seen a small flock of Shelldrakes in this bay. Fortunately, I did not note the date at the time, but

think it was about March, 1867 or 1868, that I saw seven or eight of them on the banks a little below the Sydenham station on the Holywood railway.

On 27th January, 1877, Hugh Shannon brought me one that he had captured that afternoon, alive and apparently uninjured, on the banks near Holywood.

Towards the end of September and beginning of October, 1879, and later on into the winter, Shelldrakes, among other comparative rarities, were commonly met with here. Some were brought to me on 29th September; and from then on to Christmas I heard of and saw many which were procured by my brother Richard, his son, and others; I, unfortunately, not having had time to look after them myself.

Thompson mentions numerous instances of small flocks, and other instances of flocks of 70, 100, and even 200, having been seen in this bay.

These birds, like the Puffins, hatch their young in holes under ground, whence they are called "burrow ducks;" but they always use rabbit burrows for this purpose, never excavating their own as the Puffins do. They formerly bred at the Kinnegar, Holywood, on the larger Copeland Island, and in other places not very distant in both this and the adjoining county; but are not now to be found nidifying in any adjacent locality that I know of.

The Shelldrake is abundant, and indigenous, in suitable localities on the mainland and western isles of Scotland, as also in the Orkneys, but, strange to say, is almost unknown in Shetland.

These strikingly handsome birds are easily domesticated; becoming, with a little attention, confident, attached, and familiar; and they are a very attractive addition to the poultry-yard, or to ornamental waters.

Another beautiful bird, the PINTAIL DUCK (*Anas Acuta*), sometimes called the Lady Duck from its graceful shape and attractive plumage, requires a passing notice. This bird is but sparingly distributed over the country: the only instance of its capture that has come under my own notice was late in March, 1862, when a pair, male and female, were shot at the end of the Kinnegar, Holywood, by the late Mr. John Power, of that town. Hearing of the strange birds, I went with Captain Stackpoole, to whom Power had given them, to see them, taking Yarrell's book with me to assist in their identification. We found the birds figured very accurately in Yarrell, and we compared, point by point, the specimens on the table with the minute description given by the accomplished author named. Captain Stackpoole was very much pleased at getting such a handsome pair of rare birds, and said several times, as the description proceeded, "I'll get them stuffed; oh yes, I'll get them stuffed!" and again, when some other point was brought out, "I shall most certainly have them stuffed!" But when I read from Yarrell that:—"This species is one of the best of our various ducks for the table; the flesh is excellent and in great esteem," the gallant captain changed his tone immediately, exclaiming, with strongly marked emphasis, "Ha! I'll stuff myself with them!"

The Pintail occurs more sparingly on both the mainland and islands of Scotland than it does in this country, but is said to be more common in England, particularly in Dorsetshire and Hampshire, where it is called the "Sea Pheasant," on account, I suppose, of its long tail. I have seen them in poulterers' shops in Courtrai, Belgium, and learnt that they are not uncommon in that neighbourhood. In parts of North America the Pintail is very abundant. All the writers on ornithology, to whose works

I have access, speak of this duck in terms of admiration. Audubon saying, in his own charming way, "There seems to be a kind of natural modesty in it which you do not find in other ducks."

I now come to notice three species of this family—the WILD DUCK (*Anas Boschas*), the WIGEON (*Anas Penelope*), and the TEAL (*Anas Crecca*)—which are so common and generally known that I have nothing new to say about any of them ; yet there is much of interest to be said.

All three species are found in the Bay, none of them, however, in anything like the same numbers as formerly ; the Wigeon now, as then, greatly preponderating. It is, in fact, essentially a marine species, frequenting the sea in preference to fresh water ; while the reverse is the case with the two others. All three species are, when in full mature plumage, extremely handsome, the plumage of the male bird especially exhibiting a most attractive and striking variety of colours. The brilliancy of the plumage is soon lost in preserved specimens, and those who have never seen the birds when alive or freshly killed can hardly conceive how soon it begins to fade.

I never saw Wild Duck and Teal to more advantage than one day late in February, 1876, when I was accompanying my friend Mr. E. T. Herdman on a day's snipe-shooting through some bogs near Lifford, Co. Donegal. We watched, long and closely, the flight of what is generally called a "flock," but of which the fowler's correct term is a "spring," of Teal. Their airy lightness and activity on wing were astonishing : one moment they were flying upwind in close order and pretty near the ground, and the next the flock would break and scatter in the wildest disorder—some flying high into the air, others scattering out to both sides like a cloud of dry, withered leaves before an autumn blast ; while some few

ght the earth, only to take wing again in a moment, join their companions in a rapid flight downwind, in which the whole body would again close ranks ; and swooping down, and stretching out their line of flight as if all going to alight together, some fresh impulse would seize them, and they were off to repeat the evolution again and again, each time slightly varied in form, before they finally alighted, greatly spread out, on the edge of a large sheet of water, where a river, running through the valley, had overflowed its banks. A few of them again took wing, and, flying high over our heads, a beautiful specimen was shot and secured.

I have seen the Teal but rarely in Belfast Lough, its preference being decidedly for fresh water. Numbers of them frequent the lakes at Ballydrain, Hillsborough, Lough Ramadarragh, and other similar places ; and in such localities it has been remarked that, when free for a time from the persecution that is sure to await it in open waters, this handsome little bird, the smallest of the British ducks, soon becomes familiar. The Teal also frequents bogs and rivers ; it is now but seldom observed on the exposed open waters of the bay, except when frozen over, one of its more favourite haunts.

Very different was the case some years ago, when, according to Thompson, about a hundred were seen in a flock on the bay in the winter of 1849-50 ; and the wild-owl shooters said even then that they were not nearly so numerous as in former years, when four to five hundred were not unfrequently seen in a flock together during severe frost. In the winter of 1837-38, which is the period particularly referred to, on one occasion fifty were procured on one discharge of a swivel-gun.

In the bay Wild Ducks are less numerous than Wigeon, but more so than Teal ; and, like the latter bird, their

numbers increase greatly during hard weather. The reclamation of the slob lands on both sides is one of several causes to which the great decrease in the numbers of wild fowl now frequenting the Lough is to be attributed; but the draining and improvement of the country generally has also a good deal to do with it. Still, go out on the Lough any day in winter, the colder the day the better, and you will see Wild Ducks, but only at a distance.

My friend Mr. W. S. Lamont, of Dromore, Co. Down, has informed me that at Gillhall, near that town, the residence of George Brush, Esq., the Wild Ducks build in high trees, and, after the young are hatched, they convey them to the ground, where other nests had already been prepared for their reception.

The geographical position of these islands has a good deal to do with making them such a favourite haunt of wild fowl. The numerous bays and estuaries with which the coasts of the United Kingdom are indented offer an almost unlimited extent of suitable feeding ground for the marine species; and the lakes and bogs in this country and in Scotland offer similar inducements to those varieties that are more partial to fresh water. But the great extent of fen-land, now reclaimed, that was formerly to be found in some of the eastern counties of England, particularly in Lincolnshire and Cambridgeshire, was the favoured resort of almost countless myriads of wild fowl, and was a perfect paradise for the fowler.

Large numbers of wild fowl, principally Ducks and Wigeon, were shot by the punt gunners on the coast; but by far the greatest numbers of these birds that were procured were captured in contrivances called decoys, of which I shall endeavour to give a short description by-and-bye. As an illustration of the abundance of wild fowl, and of the value of a decoy to its proprietor, I may mention that,

in one in Essex, ten thousand head of Wild Ducks, Wigeon, and Teal were taken in one season; and in others from two to four hundred head of Ducks have frequently been taken in a single day. In the year 1765, there were caught at the decoy at Dowesby, in Lincolnshire, 12,908 Wild Ducks, which on the average fetched seven shillings per dozen.—Daniel's *Rural Sports*, p. 428. The profits arising from a good decoy in a favourable season were considerable; and Mr. Folkard, who is my principal authority on this subject, mentions instances of decoys yielding from £500 to £800 nett annual profit to their proprietors. In Lincolnshire, the decoy men were formerly willing to contract to deliver all their capture of Ducks to dealers in Boston at tenpence a-couple! And, within Mr. Folkard's own knowledge, "wild fowl were sometimes so abundant, and such numbers captured, that the Essex and Norfolk decoyers were glad to sell Wild Ducks at one shilling per pair."

The most graphic description that I have seen of the Fens, as they were, is to be found in the late Canon Kingsley's *Hereward the Wake*, to which book I refer any of my readers that want further information on the subject. On the fascinations of Wild Duck shooting Mr. Folkard discourses long and ably; but I must content myself now to dismiss the subject as one foreign to my present purpose, by borrowing from him a quotation from an old author, who says—"Wild Duck shooting is a first rate sport, and Wild Duck eating a most agreeable undertaking."

The Wigeon (*Anas Penelope*) next claims our attention. This handsome and, from its numbers, really valuable species was formerly extremely abundant in Belfast Lough, and in the neighbouring Loughs of Larne and Strangford. From their comparative quiet, it is now more abundant in the two latter than in the former, where,

however, it is still found in very considerable number and generally speaking from about September to March the times of arrival and departure varying somewhat with the season. In 1879 I noted their first appearance on 10th September. In my winter boating excursions in former years I have often seen the Wigeon to great advantage, and in large numbers—so frequently, indeed, as to render any detailed mention of the times unnecessary. One of my last notes of seeing them is that on the evening of 19th March, after several days of severe storms and some heavy falls of snow, I saw a “company” of about eighty to one hundred Wigeon near the Kinnegar, Holywood. The birds were tame, and tired after the gale ; for they allowed themselves to drift in on the flowing tide, and with the strong wind, till they were not more than eighty to a hundred yards from the shore ; and then they would take wing and fly about sixty or eighty yards farther out to sea and alight, only to drift back again in a few minutes. They took three such short flights within ten minutes. In returning from my walk, when it was getting quite dark, they were still there ; but on the following evening, which was perfectly calm, there was not a bird to be seen.

Before the introduction of the swivel-gun, which certainly must share, with the other “improvements” already named, the responsibility of the diminished numbers of wild fowl that visit this lough, Wigeon were often shot by persons who concealed themselves in barrels, which were sunk in the mud banks, at certain distances apart, for the purpose. A miserable “sport” this must have been on a cold night ; and it was followed less for pleasure than for profit, many persons making a regular vocation of wild-fowl shooting in that primitive manner some forty or fifty years ago. The introduction of the swivel-gun, a most formidable engine of destruction, put an end to the more primitive barrel-

ooting ; and this will not be wondered at, and will also show how numerous the birds were, when I mention, on the authority of Mr. Thompson, that one wild-fowl shooter killed 336 birds—Barnacle, Teal, Wigeon, and Wild Ducks—in Belfast Lough in one week with his swivel-gun. Of wild fowl thus killed in this and the two adjoining loughs, Wigeon have always been the most numerous. George Johnston, Esq., of Glynn, has told me of killing over ninety Wigeon in Larne Lough by one discharge of his swivel-gun.

Of the great expanse of banks in Belfast Bay, formerly all covered with the *Zostera Marina*, or grass wrack, those on the County Down side are rapidly changing their character, becoming hard and clean sandbanks instead of soft ooze. A great physical change of this nature cannot fail to have some effect on the inhabitants and feathered frequenters of these wide flats. Wigeon and Brent Geese, although still numerous, are becoming less abundant, and the shooting of them more difficult. The long grass wrack, floating upwards, came to or near the surface of the shallow water, and so softened the roll of the small waves, or "jabble," as the boatmen call this short, chopping sea, that it prevented them breaking, and so greatly facilitated the punters when "setting" up to fowl.

I suppose it is owing to the embankments, and the straightening and deepening of the channel, and consequent greater "scour" in it, that the banks are thus changing their old distinguishing characteristics.

CHAPTER VIII.

THE EIDER DUCK—POCHARD—DECOYS—GOLDEN EYE—
TUFTED, AND LONG-TAILED DUCKS—SCAUPS—SCOTERS.

The boat goes tilting on the waves,
The waves go tilting by ;
Then dips the Duck, her back she laves,
O'erhead the Sea Gulls fly.

R. H. DANA.

THE EIDER DUCK (*Anas Mollissima*) is, according to Thompson, "an extremely rare visitant," so much so that I have never seen one here, and have only been informed that Mr. Nash shot one, a young female, off Greencastle, on the County Antrim side of Belfast Lough, on 20th October, 1877. So far as I am aware, this is the only instance on record of this very rare species being obtained here.

The POCHARD, more commonly called in England the Dun-bird, and here, locally, the Red-headed Wigeon (*Fuligula Ferina*), is one of the diving ducks, and is almost the only one of them that is good for the table. It is found every winter in Belfast Lough, but in comparatively limited numbers; and I mention it principally to introduce, in connection with the short description of a decoy that I intend giving, a brief account of an ingenious contrivance called the flight pond, used for capturing Dun-birds, as these birds will not allow themselves to be taken in a decoy.

A decoy is thus constructed:—In the midst of a district where wild fowl abound, a natural pond or small lake is taken, or an artificial one is formed. The size of this

Varies greatly, under different circumstances, but experience has shown that one of two to four acres in extent is generally the best size. Such a pond must occupy a very quiet, sequestered site in the midst of a good wild-fowl country. The sides of the pond itself must be partly surrounded with reeds and long grasses, and these again by plantations of trees and bushes of sufficient extent to isolate the decoy from the noise and disturbance of the outer world. In such a place, offering apparently undisturbed and perfect security to its feathered visitors, several, often five or six, curving arms are dug out at different parts of the circumference of the lake. These curving arms are generally from six or eight to about eighteen inches deep at the entrance, where they are about twenty feet or more wide, narrowing as they get nearer the end of the arm farthest from the pond. These curving arms, technically called pipes, are about sixty to eighty yards long, and are covered all over with an arched netting, to prevent the birds escaping by flight once they are in the pipe.

This netting, twelve or fourteen feet high at the entrance of the pipe, tapers down as the pipe narrows towards its upper end, where it terminates in a narrow netting, of about two feet in height and the same diameter, on the dry ground at the extremity of the dug-out arm.

On the outer or convex side of the curve a number of reed screens are placed, for the decoy man to conceal himself behind until the birds are fairly within the pipe. When he shows himself, they swim up the pipe to escape him, not being able, from the curve in it, to see the other and closed end of it till too late. When the birds, thus entrapped, have reached the end of the water in the pipe, they go out on the land under the narrow tunnel net that terminates it; this is hooked off from the other part of the

netting, and then the birds are all as it were in a bag from which the fowler, taking them singly at his leisure, remorselessly wrings their necks, hooks the movable end of the funnel net into its place again, and is ready to begin operations afresh. The way that the birds are first enticed to enter the pipe is by the use of decoy ducks, which are half or at least partially tame, and remain always in the decoy pond, where they are regularly fed by the decoy man, whom they learn to know, and to whose whistle, which they have learnt to associate with supplies of food, they always attend.

Suppose, then, the decoy man from behind his screen sees a number of wild birds in the pond, he calls his decoy ducks, which swim towards the spot—invariably the entrance to one of the pipes—from whence the sound came. They are followed by a number of the wild birds; and these, finding corn floating on the water about the decoy pipe, enter it to look for more; or, once at the mouth of the pipe, they are often induced to enter it by their curiosity to see more closely the antics of the decoyer's dog, which is called a piper, and which is trained to show himself here and there, and to play and skip about in an apparently frolicsome manner, never barking, and carefully watching the birds all the time, until he has enticed them sufficiently far up the pipe for the decoy man to show himself and cut off their retreat.

The flight pond, which, as already stated, is a contrivance for capturing the Pochard, is often constructed and worked in conjunction with a decoy, as the first elements necessary to the success of either are the same in both; I mean a quiet, sequestered locality, in a suitable and well-stocked wild-fowl district. The Pochard, or Dun-bird, is extremely cunning and suspicious, and is rarely captured in a decoy; for although these birds may sometimes be enticed a short

way into the pipe, they take alarm, and when the fowler shows himself, they make their escape back to the open water of the pond by diving past him. It must have been very aggravating to the owners of, and fowlers employed at, decoys to see the numbers of Dun-birds that frequented their ponds, but never allowed themselves to be captured. The Dun-bird has shorter wings for its size, and, being a diving duck, its legs are placed farther back than in the true ducks. Hence it cannot rise almost perpendicularly from the water, as Ducks and Teal can; but, on taking wing, its ascent is more laboured and gradual. Observing this, and observing, further, that the Dun-birds, like most wild fowl, always rose *against* the wind, some one thought of the contrivance of a very large and strong netting, stretched on a frame, on immense poles working on pivots in posts fixed in the ground to receive them. The butt ends of these poles are weighted, so that when the stretched-out net, lying horizontally, is wanted to be brought into use, by the withdrawal of a pin or trigger the weights are allowed to exercise their force, and they bring the large framework, with the net stretched on it, into a perpendicular position. At what would be the bottom of the net, when in the perpendicular position, a number of small enclosures, called pens, are constructed.

We will now suppose one of these flight ponds, with four such nets fastened down horizontally, to be visited by a large flight of Dun-birds. The fowler watches their movements for a time, and then proceeds to work. Having learned by observation and experience what direction they will take on rising, he stations himself at whichever of the nets he knows will intercept their flight, and sends one or two assistants to the opposite part of the pond to flush the birds. These rise from the water in a great body, and then is the critical moment for the fowler to draw the

trigger, when the ponderous frame and net rise slowly in the air, and the great rush of birds, flying against it, fall helplessly into the pens below, where they are speedily despatched by the fowler and his assistants. I borrow these particulars of the flight pond, greatly curtailed, and really not doing the subject proper justice, from Mr. Folkard's *Wild Fowler*; and this author adds—"From five to six hundred Dun-birds at a 'drop' was formerly considered but a moderate capture; and to break the necks of every bird in that number would occupy three experienced men but twenty minutes."

The GOLDEN EYE DUCK (*Anas Clangula*) and the TUFTED DUCK (*Fuligula Cristata*) are both found in the bay in winter, sometimes in tolerable numbers; but, so far as I have been able to observe, the latter is the more common in the bay, while the former is more partial to fresh water, large numbers annually visiting Lough Neagh. In 1878, the first of the *Anatidæ* that I observed in the autumn, after migration, was a small paddling of about a dozen Tufted Ducks near Greencastle station. Of Tufted Ducks I have noted seeing as many as 200 in the Lough, in a paddling together, when I was out boating on 21st January, 1871; and I saw a good number of them about the middle of the Lough, half-way between Cultra and Greenisland, on 19th February, 1873. This was a fine calm day; but the other day mentioned was very much the reverse—wet, stormy, and bitterly cold. On 15th February, 1876, there was a small company of thirty or forty, close in to the Railway embankment, about half-way between Belfast and Whitehouse, and they swam off rapidly as the train passed, making a broad wake in the smooth shallow water. I observed exactly the same thing on two or three occasions late in February, 1880, between Belfast and Holywood; about thirty Tufted Ducks being

in the water quite close to the Railway, and swimming away as the train passed. I have on different occasions seen both species to great advantage on the lake in Clandeboyne demesne. The Golden Eye is common on the fresh-water Scotch lakes, and the art of stalking these wary birds is very minutely described by Mr. Colquhoun in *The Moor and the Loch*. This author says the Golden Eye is a great delicacy for the table; while the Rev. George Robinson, who read a paper on the "Birds of Lough Neagh" to the Field Naturalists' Club on the 8th March, 1876, said that for table purposes it is the worst of all the ducks—rather a difference of opinion, which want of experience precludes me from attempting to settle.

In Daniel's *Rural Sports* (London, 1813) it is recorded that "an extraordinary occurrence took place, March, 1810, near Drumburgh. A fisherman placed a flounder net in the river Eden, which is subject to the flux and reflux of the tide; and on his returning to take up his net, instead of finding fish, he found it loaded with Wild Ducks. . . . A fleet of these birds had alighted below the net, and were carried with great impetuosity into it and were drowned. He caught one hundred and seventy Golden-eyed Wild Ducks." . . . They were supposed to be from the Orkneys, being rare at the place of their very unexpected capture.

The LONG-TAILED DUCK (*Anas Glacialis*) is quite a rare species here. The only note I had till lately of its appearance in Belfast Lough is that, on 6th March, 1869, I shot one of a pair which I fell in with about three-quarters of a mile from the land, off Craigavad.

On 6th October, 1879, a party, of which my brother Richard was one, shot a young Long-tailed Duck from a boat not far from Whitehouse; and on 18th of the same month Mr. Brodie shot another. Both these came into my

possession. Mr. Thompson mentions its occasional occurrence here. In its mature plumage it is a very beautiful species. It is generally distributed over Northern Europe, and is so partial to the coldest weather, that Yarrell says it seldom comes south till frozen out of its more usual haunts; hence, as might be expected, it is commonest here in the most severe weather. Mr. Robert Gray, in his *Birds of the West of Scotland*, a book evidently as reliable as it is charming, adds much to our previous knowledge of this species. Mr. Gray says—"In the winter season, from October till March, it is very common in the Sound of Harris in the outer Hebrides, and is likewise met with in considerable numbers off the coasts of Skye, Mull, and Islay; but southward of the last named island, its occurrence is extremely irregular and uncertain." Mr. Gray gives a lengthened and interesting description of this species—the Ice Duck or Northern Hareld, as it is often called; and a correspondent of his, Mr. Graham, gives an extremely graphic account of their appearance at Iona. I regret that space will not permit me to quote from Mr. Gray's admirable and spirited description of this bird; but that it is pretty abundant in some parts of Scotland, is manifest from the facts he mentions of local names being given to it. Its peculiar cry has obtained for it (says Mr. Graham) the Gaelic name of "Lach Bhinn," or the musical duck; and again, the whimsical name "Coal and candle light," or more correctly, "Coal an' can'le licht," for (says Mr. Gray) "it speaks with a good Scotch accent. The resemblance of the cry to these words," he adds, "when heard within a short distance, is quite remarkable."

Of the Ducks that visit this Lough regularly and commonly there now remain to be noticed only two species, the SCAUP DUCK (*Fuligula Marila*) and the COMMON

SCOTER (*Anas Nigra*). Both are uninteresting birds, almost valueless for the table, owing to their coarse, dark-coloured flesh and fishy flavour; and they are only remarkable from the enormous numbers in which they are found frequenting the bay, particularly its northern (County Antrim) side, during the winter months, say from October till March. The Scoters are either more numerous now than they were in Mr. Thompson's time, or else he was not aware of the numbers that visit this bay, where it is no exaggeration to say that I have seen acres of water covered with them.

My notes of both species are so numerous, the birds being so common, that I need not quote many of them; they having also been already incidentally mentioned when speaking of other species.

On 25th March, 1876, I saw two small companies of them; one in the morning about 200 yards outside of the railway embankment, not far from Holywood. The tide was in, and they were swimming. The other—or perhaps it was the same company again—I saw flying in a compact body past Cultra quay down the Lough in the afternoon. The next day (26th March) I saw, and watched for some time through a telescope, a small paddling of these birds about 300 to 400 yards from the shore a short distance below Cultra quay. The day was fine, the water smooth, and the birds busily engaged diving for food.

Mr. J. W. Valentine has frequently written and told me of the immense numbers of these birds that frequent the County Antrim shore of the bay, from about Macedon Point to Carrickfergus, the flocks apparently allowing themselves to be drifted inwards and again outwards by the flowing or ebbing tide. I have seen two or three paddlings of Scoters and Scaup Ducks in view at one

time, each body of birds consisting of several thousand individuals.

On 9th February, 1879, I watched for a considerable time, and with much interest, a paddling of between two and three thousand Scaups, with a few Common Scoters and Tufted Ducks among them, not more than four or five hundred yards from the land, off Clanbrassil, near Cultra Point. The birds allowed themselves to drift out with the ebbing tide. This was a severe winter.

In the spring of 1877, which was milder, the birds were nearly all away by 10th to 12th March.

The noise that one of these great bodies of birds makes on rising from the water is surprising; I can only compare it to the roar of a large waterfall when heard from a short distance. When one of these immense companies of birds, on being approached in a boat, takes to flight, only the part of the flock nearest the boat rises first, and the movement extends gradually to the farthest end of the paddling, the birds that have first risen flying above and overlapping the others, so that the part of the flock nearest the approaching boat have flown over the heads of all their fellows, and sometimes far beyond them, before the last of the flock rises; the birds seeming not to think of rising till they find themselves nearest to the object whence danger may be apprehended. Both species, Scaups and Scoters, are most expert divers; and, although they fly well too, the commencement of their flight is heavy. Several hundred pair of wings threshing the water together, in a simultaneous effort to raise their bodies into the air, produce a thundering noise that one who had never heard it could hardly think possible.

The Scaup Duck is locally called "Black Wigeon," and the Scoter, "Black Duck." The former I have occasionally seen on fresh water; and it is said by the Rev. George

Robinson to be a regular frequenter of Lough Neagh, but only in moderate numbers; the latter is essentially a marine species. I myself have never seen it on fresh water, although some rare instances have been recorded of its occurrence inland. Both species are familiar to me through mid-winter boating excursions in the Lough; and I am inclined to think that while the Scaup Duck often feeds, as does the Wigeon, on the banks left bare by the ebbing tide, the Scoters seem to get their food exclusively by diving to the bottom in search of it. Of course smooth and clear water greatly facilitates their diving operations; and it is to this fact that I mainly attribute the bird's preference for the County Antrim side of the bay, which the westerly and north-westerly winds (the most prevalent here) generally cause to be the most sheltered side. I have occasionally remarked large flocks of birds in near the County Down side during strong southerly and south-easterly winds.

The Scaup Ducks are but little molested, and the Scoters are not molested at all, by the wild-fowl shooters; hence I account for the fact of their being at least as numerous in this lough now as in Thompson's time.

I saw a pair of Black Scoters off Corsewall Point, the entrance to Loch Ryan, so late as 15th May (1879).

On various occasions, on the Dutch, Belgian, and French coasts, I have observed the Common Scoter in immense flocks, consisting certainly of many thousand birds.

On 20th March, 1874, crossing over from Dover to Ostend, on approaching the Belgian coast, I observed the Common or Black Scoter in immense flocks, and some few pairs of the Velvet Scoter among them, but apparently not mixing with them. I remarked particularly that while the Velvet Scoters seemed to be paired, the common species did not.

At the same time and place I observed a considerable number of the Red-throated Diver, singly and in pairs.

The Scoters are netted on these coasts for the market the Church allowing them to be eaten during Lent and fast days.

Ducks are also netted at Lough Neagh.

On 11th May, 1878, off Ostend, I saw only seven Black Scoters and hardly any other birds; a great contrast, I remarked, to the appearance these coasts generally present in winter.

The VELVET SCOTER (*Oidemia Fusca*) is rare here. My only local note of the species is that, on 6th February, 1875, I saw a pair of them off Greenisland, about half-a-mile from the land. The weather this spring was very mild; and I was surprised to see that all the large flocks of Common Scoters were already gone.

On 23rd June, 1875, I saw a solitary Velvet Scoter off Ardnamurchan Point, in Argyleshire.

CHAPTER IX.

TERNS AND GULLS—VISIT TO HORN HEAD.

The shore let her transcend, the promont to descry,
And view about the point th' unnumbered fowl that fly ;
Some, rising like a storm from off the troubled sand,
Seem in their hov'ring flight to shadow all the land."

DRAYTON'S *Poly-Olbion* : *Song the first*.

PASSING now from the Duck tribe over the three intermediate families of the Divers, the Auks, and the native representatives of the Pelicans, which have been already noticed, we come to the Gulls, which naturalists have agreed in placing last in order among the birds.

The graceful, active, and pretty TERNS, whose light, airy movements and frequent little cry are well known to most seaside residents, require a notice. Four species of the Tern, or Sea Swallow, locally called Pirr, or Purr, are tolerably common here during summer and autumn ; and at least two species of them formerly bred in considerable numbers, and still do in limited numbers, on the outer of the three Copeland Islands, at the entrance of this bay. This, the so-called Mew Island, is uninhabited, but is easy of access from the neighbouring islands, or from the mainland ; and the poor birds were greatly harassed during their season of incubation, they themselves being so shot at, and their nests so continually robbed, that they were almost forced away from this their once favourite resort ; but in more recent years they seem to be increasing here again.

On 22nd June, 1878, I found Terns' eggs abundantly—singly and in twos and threes—on the Mew Island, which

my friend Mr. William Carson and I visited on that day. We saw at least twenty places where eggs had been laid—I cannot call them nests, for there was no attempt at any such construction—and between forty and fifty eggs altogether. I took three or four eggs, and, on blowing them, found all quite fresh.

Young Jack M'Mahon told me that he found numerous eggs and young birds there on 30th July following; and my friend Mr. James M'Gee told me that, on the 19th August following, he found on the Mew Island many young birds, apparently just hatched. This would almost look as if the Terns brought out two broods in the season.

Our boatman alleged that the eggs were hatched by the heat of the sun. On the occasion of my visit to the island in June, I saw many broken eggs. A great many starlings were flying about; and it occurred to me they might be the depredators.

On 14th June, 1879, there was not an egg or a bird to be seen on the island, as I was informed by Mr. A. H. Coates.

Considerable numbers of Terns still visit us, arriving early in the summer. In 1877, the first I observed were on 15th May. They become more abundant in autumn, after the young are able to fly. On 29th September, 1878, I saw a most unusual number—certainly several hundreds—all along the shore from Holywood to Craigavad. It was a fine calm evening, and the tide about quarter ebb. Most of the birds were sitting in small companies on the water; but many, too, were flying about, crying and fishing industriously.

When returning from a day's fishing in the Lough, towards the dusk of the evening, I have often seen the Terns flitting, like shadows, silently through the increasing gloom towards the Copeland Islands for the night. The

Early dawn again sees them scattering over the Bay ; and never have I seen nature look more lovely than from the deck of a yacht at early dawn, upon a fine, calm, autumn morning, with these beautiful little creatures winging their silent flight past us, in the rosy light of the new day. The sea, smooth as a mirror, reflecting back their forms, was dotted here and there, as far as the eye could reach, with the Razor-bills and Guillemots ; whose young, swimming near them, repeating their frequent little plaintive cry, to which the parent birds replied with a louder and hoarser note, added another charm and interest to the scene.

Every one knows the Sea-Gulls, of which Mr. Thompson has recorded about sixteen species as Irish ; but of these only six or seven occur sufficiently often to be regarded as regular frequenters of the Lough, and to this half-dozen or so I shall confine my few concluding remarks on this order. Of these, the Black-headed, the Kittiwake, and the Herring Gulls are the commonest of all. The Lesser and Greater Black-backed Gulls are less abundant ; the so-called Common Gull still less so, and the Glaucous Gull rarer still.

The BLACK-HEADED GULL (*Larus Ridibundus*) is very common, and may be seen daily on our shores, often in considerable numbers. This species flies far inland, and is often seen, in company with Rooks, following the plough to pick up the worms that may be exposed in the freshly turned-up furrows. The breeding haunts of this species, of which Thompson mentions several, are generally situate on islands in inland lakes, whence the birds spread over the whole interior of the country. Mr. Thompson mentions seeing above a thousand of them at one time at Lough Neagh.

This species seems to have a wide range. On 26th May, 1878, between Breslau (Silesia) and Liegnitz, we passed

two rather considerable sheets of water, and saw in their neighbourhood, particularly on a small island in one of them, a large number of Gulls, apparently *Larus Ridibundus*.

25th March, 1879.—Saw from Queen's Bridge (Belfast) to-day two Black-headed Gulls, with the colour of the heads as fully developed as in the middle of summer. This looked strange, as it had been snowing heavily almost all day, and was so when I saw them. On 24th March, 1880, just one day earlier, and at the same place, I saw the Black-headed Gull with the black colour of the head fully developed. The change must take place quickly.

The KITTIWAKE (*Larus Tridactylus*) is more essentially a marine species; it is also very common in the Bay, and is found breeding in enormous numbers at Horn Head in Donegal, on Rathlin Island, at Ailsa Craig, &c.

The HERRING GULL (*Larus Argentatus*), a larger bird than the two others named, is also common in the Bay. It and the Lesser Black-backed are both to be found—the former in considerable numbers—breeding on the Gobbin cliffs, not far from Carrickfergus, as well as in much larger numbers in more suitable localities, such as Horn Head.

The GREATER BLACK-BACKED GULL (*Larus Marinus*), in its mature plumage, is a splendid-looking bird, of great expanse of wing; and its great power renders it a formidable enemy. It has often been observed swooping down, like a hawk, on a flock of Wigeon, and carrying a bird off; and it was quite a common occurrence for one to swoop down, after the discharge of a large gun, into a flock of Wild Ducks or even Brent Geese, and carry off a dead or wounded bird. I have never seen this fine species to such advantage as on the 7th January, 1871, when, driving round the coast from Larne to Red Bay with Mr.

J. W. Valentine, several individuals of them were observed. Although the day was clear and bright, the hills were covered with snow, and as the birds flew leisurely round in wide circles, their great size and jetty plumage made them most striking objects against the white background of the winter landscape. Indeed, from their size—they measure over five feet from tip to tip of their extended wings—they are always most conspicuous objects where they appear. They are more common about both the mainland and the islands of Scotland than in this country, being mentioned as frequenters of, and constant residents in, those localities by Dr. Saxby and Mr. Gray. The Greater Black-backed Gulls closely resemble some of the birds of prey in their habits. From some of their breeding haunts they regularly make expeditions over a wide expanse of hill and dale to look for dead sheep, or other carrion, on which they prey. They even attack and destroy weak lambs; and are often seen skimming along a mountain side, after the manner of a hawk, looking for young rabbits and hares, or grouse, to the eggs and young of which they are very destructive; quite as much so, in the opinion of some experienced gamekeepers, as are the hawks themselves. These birds are regarded with great dislike by the inhabitants of St. Kilda, as they destroy a large quantity of the eggs and young of their weaker neighbours; and if ever a Greater Black-backed Gull be captured by the St. Kildians, they give vent to their deadly hatred of the species by putting their captive to death with every cruelty they can devise. Dr. Saxby mentions seeing three of these birds attack and kill a wounded Golden Eye Duck, which endeavoured, but failed, to escape by diving; and it has been known to rob even that bold and powerful bird the Cormorant of its prey.

The GLAUCOUS GULL (*Larus Glaucus*), or the Burgo-
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master, as it is called in some parts, is fully equal to the last species in size, and is of similar habits but different plumage, being nearly all white. It occurs but very rarely here. Mr. Gray says this species is of more frequent occurrence on the east than on the west coast of Scotland, and thus describes their appearance there on one occasion—
“This bird is associated in my mind with at least on vivid picture of a wild sea. On the iron-bound coasts of Berwickshire—fatal to many a gallant ship—I witnessed some years ago a terrible tempest raging, spreading destruction and death: sea and sky were mingled in one dark, drizzling mass, and all else blotted out save a foreground of rocks, on which the broken waves were crashing with the noise of artillery, and from which clouds of spray were rolling landwards like wreaths of smoke from a battlefield. Against the background of sea and cloud there appeared a Burgomaster Gull and a small band of kinsmen—the snow-white parts of their plumage appearing like specks on the pitch-like neutral tint, best understood by those that paint the ‘war of elements.’ With a free sweep the splendid birds seemed to rejoice in the tumult beneath, calling to one another in loud, hoarse shouts, as after a moment’s suspense they dashed across the gloom. From a peaceful-looking Gull they had each become like a storm-demon, hovering at times in the dark cloud, and presiding over the troubled sea, their very presence forming an essential element in the picture. Such is *their* life!”

Here this fragmentary description of some of the Swimming Birds that frequent Belfast Lough terminates; but, before finally closing, I take this opportunity of mentioning a most interesting and enjoyable visit paid in the autumn of 1875, in company with my friend Mr. John Herdman, to one of the principal colonies of sea-fowl in

Ireland, and one which has been mentioned more than once in this volume. I refer to Horn Head, in Donegal. The peninsula—locally called the “island”—of the Horn has a sea front of several miles of magnificent cliffs, rising in some places to a height of over 700 feet sheer up from the ocean. These cliffs are divided here and there by deep indentations and bays, with steep and quite inaccessible rugged and grassy slopes towards the ocean. The base of the cliffs is pierced by numerous deep caves, frequented by seals, and their faces are terraced out and divided into an immense number of ledges, which are the resort of thousands upon thousands of sea-fowl. Our visit to this wild coast was on the 11th and 12th August, 1875, by which time many of the birds had left, but myriads still remained. On the first of these days, which was very fine and calm, with a bright warm sun, we started from Dunfanaghy in a four-oared boat, and headed towards the entrance of Sheephaven. We got close under the north shore, and rowed quietly by the foot of the rocks, till, rounding the little Horn, the grand, sublime picture of the Horn itself burst upon our view. Our boat rose and fell, with a long, gently undulating motion, on the great smooth Atlantic swell, as the crew, with the knowledge of a long row before them, bent quietly to their oars, each few moments unfolding some new and striking feature in the wondrous scene before us.

The first colony of Gulls that we came to was one of Kittiwakes; and the next, so far as I could make out, of Lesser Black-backed Gulls. The Herring Gull was very abundant, as were also Razor-bills, Guillemots, and Puffins. Past the famous “Temple Brig,” a fine, lofty natural arch, standing out into the ocean, sufficiently wide for the boat to be rowed through without the oars being drawn in, there was an immense colony of Kittiwakes—thousands of them, I should say—dotted in regular rows

one over the other, from a short distance above the water to a great height up the face of the cliff, the summit of which at that place, over the mouth of a deep and gloomy cavern, overhung its base. Of Crested Cormorants we saw a very large number, sitting on low rocks, in groups of from eight or ten up to sixty or eighty individuals, and swimming about, all quite tame. Some of this species we saw on their nests, with their young, within the caves.

The men here call all the Gulls, indiscriminately, "White birds;" Razor-bills and Guillemots, "Black birds;" and Puffins, "Red birds." The Black Guillemot, of which species I saw only one, they call "Red-legged Puffins." The Green or Crested Cormorant is their "Scart," and the Great or Common Cormorant simply "Cormorant." This species, the men say, does not breed at the Horn; but the next day we saw many of these birds, some of them on their nests, on and about a headland called Marble Hill, that divides two of the inner arms of Sheephaven.

There were some matters in the ways of language and life that struck me as curious about some of the people at Horn Head. I remarked a great similarity between their accent, and more particularly in their turns of expression, and those that one hears in the Western Highlands of Scotland; which indicate, to my mind, some affinity of race. Such questions lie, however, so entirely outside the scope of these remarks, that I make no further allusion to them; and shall only mention one curious occasional episode in the life of an individual there, compared with the utter, helpless solitude of which Crusoe in his island must have had a life of companionship and luxury.

From two points that we saw, one near the little Horn, the other from the outermost extremity of the Horn itself, salmon nets are spread from the shore, stretching straight

out to sea, their outer ends being secured to strong mooring-buoys laid down for the purpose. I have already mentioned the caves that one sees all round these wild headlands, and these caves are the abodes of a considerable number of seals. Now these seals discovered that their easiest way to get a fish dinner was to go to one of the salmon nets and help themselves, a proceeding that the proprietor of the fishing entirely disapproved of. A very short distance to the east of the Horn, at the shore end of the net spread there, the foot of the cliff, instead of descending perpendicularly into the water, ends in some flat ledges and shelves, entirely inaccessible from the land side, and accessible from the sea only in the calmest weather. In a cleft in the rock, about thirty feet above the sea level, and to which access may be had by a rude ladder from the highest of the ledges below, a small wooden hut has been constructed ; indeed it does not deserve the name of hut, for its sides are the solid rock, and only its roof and front are the work of man. In this den of two divisions—they don't deserve the name of rooms—in one of which a man can lie down but cannot stand upright, and the other of which is not much larger, a man, armed with a musket, was placed to watch the salmon net, and to fire at the seals whenever they showed their heads above water. Here this individual spent several solitary consecutive weeks each year—his sole occupation to fire at the seals—his largest exercise ground not more than ten or twelve feet long—his habitation at all times utterly inaccessible from the land side, and only on unusually fine days accessible from the sea. He had a week's spare supply of provisions, fire, and candle, and he was weekly supplied with these necessities. On one occasion, when there was an unusually long spell of bad weather, and it was impossible to convey his usual supplies to

him, he was nearly starved to death before he could be succoured. Day after day, his sole prospect sea and sky; plenty of willing help near, but none available; starvation daily staring him in the face: such a life!

On the second day of our visit, I walked along a considerable portion of the range of cliffs, and had a magnificent prospect from the summit.

Right and left, a great portion of the north-west coast of Ireland was in sight at one view—from Malin Head on the east to the Bloody Foreland on the west—a stretch of nearly forty miles. Looking seaward, Tory Island, rising out of the blue ocean, showed its dark bulk and rugged outline against the clearer blue beyond. Twenty or thirty miles inland, the mountain of Errigal, above 2,400 feet high, towered like a giant among the smaller hills, and formed a fitting background to the picture in that direction. Far below, the illimitable ocean, with its ceaseless beat against the foot of the cliffs, and its eternal fringe of snowy foam, even on this day of dead calm, suggested what it might be in a winter gale.

On its now placid surface a few Gulls idly float; these, with the Cormorants cruising lazily round the base of the cliffs, and the drowsy hum of insects in the sultry air, all suggest a rest in the noonday heat; and I was only roused from the dreamy reverie into which I had fallen, in admiration of the seen and reflection on the unseen, by a voice beside me saying—"Sir, I think we'd better be going, or Mr. John will think we are lost." It is but a step from the ideal to the real! The familiar voice recalls one's wandering senses; and, putting my meerschaum, with my meditations, in my pocket, we wearily trudge, silent, hot, and hungry, back to the boat.

CHAPTER X.

INTRODUCTORY : THE CLASSIFICATION OF WADING

. BIRDS—HERONS AND HAWKING.

The lonely Heron sits,
 And you may find her by some reedy pool,
 Or brooding gloomily on the time-stained rock.

How bright thy savage eye ! Thou lookest down,
 And seest the shining fishes as they glide ;
 thy glossy beak
 Swift as an arrow strikes its roving prey.

J. M'LELLAN, Jun.

THE attention of observant seaside residents, and of those persons who travel frequently on one or other of the lines of railway that now border both shores of our bay, can hardly fail to be attracted by the number and variety of the birds that are often to be seen on the fore-shores of the Lough which are left bare by the receding tide. These are principally the Wading birds.

I may say at once that on the subject of the Waders I have little or nothing to communicate that will be new to either the naturalist or the sportsman, but hope it may not be entirely devoid of interest to some.

The order of the *Grallatores*, or wading birds, has been divided into *six* families, viz. :—

- 1st. The *Charadriidæ*, the family of the plovers, oyster-catcher, &c.
- 2nd. The *Gruidæ*, or cranes.
- 3rd. The *Ardeidæ*, the family of the herons, storks, &c. ; some authors classing these two families together.

4th. The *Scolopacidae*, the most numerous and important family in this order, embracing the woodcock, snipes, curlews, dunlins, and many others.

5th. The *Rallidae*, or rails; and

6th. The *Lobipedidae*, or lobe-footed birds; the coots and phalaropes—a family of but few species, and by some authors not considered of sufficient importance, or presenting such points of difference, as to require a separate family division. Some authors place the phalaropes among the *Scolopacidae*.

These six families contained, when Mr. Yarrell's work was first published, about sixty-seven British species; and when Mr. Thompson's book was presented to the public, about fifty-six or fifty-seven species recorded as Irish; which latter number, so far as I am aware, has not been materially added to since. Of course many among these recorded Irish species are very rare, and others are not shore birds; so that it is to only a few of them that I wish shortly to direct attention.

The wading birds so often come under notice in mixed flocks that it is hard to know with what species to begin, because to follow classification strictly might give to some comparatively obscure species undue priority over their more prominent congeners. I shall therefore commence by disposing of those that, either from their rarity or from not being regular shore birds, do not require notice here.

Among these come the entire of the second family named, the Cranes, of which I have never seen an example at large in Ireland: then the entire of the next family, the *Ardeidae*, with the sole exception of the common Heron, which shall be noticed at some length. I may also exclude the fifth family, the Rails, leaving the principal represen-

tative shore species of the other three families to be noticed.

I cannot do better than begin with the HERON (*Ardea Cinerea*). These stately birds, so highly prized as attractions at many noblemen's and gentlemen's seats in the sister island, are so common here as really not to attract the attention their size, beauty, and former importance and value would warrant.

For properly observing the habits of the Heron, we are fortunate in having so near us the three closely adjoining marine loughs of Larne, Belfast, and Strangford, which are so adapted to its habits as to have been from time immemorial favourite resorts of the species; and we were further fortunate in having had among us the late William Thompson, Esq., who made use of his opportunities of observation and power of description in writing the best account of the Heron that is to be found in the English language.

Comparing my meagre notes with his full and finished descriptions, I am led to think that the number of Herons to be seen in our bay of late years must have greatly diminished. Large tracts of land on both sides at the upper end of the Bay have been reclaimed by railway and other embankments within the last thirty years. These operations circumscribe the Herons' feeding grounds, and lead, I believe, to their diminished numbers.

Among my own notes on the subject, that bearing on the largest number observed in any one day is the following:—10th April, 1878, high water 3.37 p.m., wind S.E., fresh.—Coming up from Carrickfergus this afternoon I saw, near Greencastle Station, standing close together in one group, thirteen Herons; and about two hundred yards distant there was another group of seven. Proceeding, later the same afternoon, to Holywood, I saw eight Herons

standing close together, between Tillysburn and the Kinnegar embankment, and one on wing near them; — making twenty-nine in all seen this afternoon.

Compare this with the following observations of Mr. — Thompson :—

After remarking that on the extensive oozy banks of Belfast Bay these birds are very plentiful, he says, "Some of those feeding on the County Down side of the Bay go in congregated numbers to the comparatively retired Strangford Lough. . . . I once reckoned as many as sixty proceeding thither at the same time, in a single line of flight. Others take a course as if going right to sea, but they probably reach a quiet haven about the entrance of the Bay." This surmise of Mr. Thompson's is quite correct, for, particularly about the time of high water, one may almost always see a few Herons about the unfrequented parts of the shore at Ballymacormick and Orlock Points, the ridge of rocks known as the Briggs, near Groomsport, and other similar places.

I have often seen them at these places, sometimes quiescent and resting with the head drawn in between the shoulders, waiting till the falling tide would allow them to resume their stand at some favourite spot for fishing; but at other times in one of the graceful, watchful attitudes they assume when on the look-out for prey. I know of nothing in nature that conveys a better idea of close, rapid attention than the look, attitudes, and occasional stealthy movements of a Heron fishing. When at rest, they sometimes, indeed often, assemble in groups, as already noticed but when fishing, they are generally solitary. A favourite stand for this purpose is near the water's edge, in one of the numerous little channels that intersect the widely extended flats of the Bay. Through these the advancing tide first begins to make its way, and with it come up the

small fish and eels which form the Heron's principal food. Generally the Heron stands as motionless as if carved in stone till a fish comes within reach, when, quick as lightning, the head is darted forwards and downwards, and the prey secured. Occasionally they must move two or three steps to bring them sufficiently near to strike their object; and when they do, their movement is rapid and stealthy, the eye still fixed on the intended victim. Instances are recorded of the bird falling a victim to its own voracity by being choked in endeavouring to swallow an eel or other fish that was too large for the capacity of its throat.

When Herons are intent on fishing, on an incoming tide, they sometimes stand till the rising waters cover the entire of their legs, and almost lift them off their feet, before they take wing.

Speaking of the Heron fishing, Bishop Pontoppidan says—"Its long legs are a great help to it to get its provisions; on these legs are a very few fine hairs, which play softly in the water; and that motion, it is said, entices the fish, who are not aware of the devouring beak above."—Part II., p. 77.

Although fish is the principal and favourite food of the Heron, yet it may be said of them "that it is all fish that comes to their net." So far, I have been speaking only of their appearance on the shore and in the immediate vicinity of the Bay; but they are almost equally partial to suitable localities, be it river, lake, or bog, inland. The variety of food procured by them in different places, and what they have been fed on while in confinement, show them to be almost as omnivorous as they certainly are voracious. While carp, trout, eels, and other fish form the principal food of the Herons that frequent fresh water, they feed also on newts, frogs, insects, and even rats and mice.

They have also been seen to catch and devour young wild ducks and other birds.

In Mr. Selby's work on ornithology, it is mentioned that a pair of winged Herons were kept by a gentleman in his garden, near Edinburgh. In the garden there was a pond into which a tree had fallen down, in the branches of which some waterhens bred. The old cock Heron swam regularly out to the nests to take the young birds. The gentleman said—"He has to swim ten or twelve feet. . . . His motion through the water is slow, but his carriage stately. I have seen him fell a rat at one blow on the back of the head, when the rat was munching at his dish of fish."

Where not molested, Herons often become bold and confident. Lord Clermont wrote me on 7th March, 1880, from Ravensdale Park, Newry—"A Heron in this place, last winter, during frost, was daring enough to pull out of the basin of a fountain, in the garden here, about a dozen gold-fish, the whole stock; and he treated some rudd, in a tank in an enclosed and frequented stable yard, in the same way."

Mr. Thompson gives lengthened and interesting descriptions of Herons kept in confinement; and as these are accessible, I shall quote but briefly from them. He says—"Herons are not to be trusted where young fowl of any kind are kept. . . . A correspondent mentions a young Heron which, though regularly well fed, killed and ate at different times some young chickens three weeks old. This bird, about two hours after having fed on the entrails of a couple of fowls, attacked a young turkey a month old, which it endeavoured to swallow whole, but in vain. In one day, though not at a single meal, it consumed a haddock 4 lbs. weight." This is very remarkable, as the average weight of a full-grown Heron would not exceed this. Mr. Thompson continues—"Another

bird has eaten three or four full-grown rats successively. Indeed, the Heron proves sometimes useful in captivity by killing these animals, and is often serviceable as a mouser, watching, more patiently than a cat, at a mouse-hole until the animal appears, when it is seized and swallowed on the instant."

In many places in this neighbourhood, besides the foreshores and immediate vicinity of the Lough, I have seen Herons to great advantage; and, to my mind, their presence always lends an additional charm to the landscape. Whether among the wild bogs and mountain tarns of Donegal or the Highlands of Scotland; the tamer solitude of some flat moorland; on the banks of the "lazy Scheldt," or amid the elegant and cultivated surroundings of such places as the lake in Clandeboye demesne, the Heron seems never out of place.

At Killarney, in the month of August, 1871, I noted that we started eight or ten off the island that bears the name of this bird. They flew over to another island called the Lamb; and, perching upon the high trees that cover it, had a most peculiar appearance.

Of Herons roosting in trees I have observed numerous instances. A portion of the plantation on the Cultra estate in the County Down, called the Upper Cultra Wood, has long been, and still is, a favourite retreat for them when driven off their feeding grounds by the advancing tide, and occasionally at other times also. I have often wondered the Herons never built there, for it has been a favourite resort of theirs for above thirty years within my own recollection.

With the County Antrim side of the Bay I am not so familiar, but have several times observed Herons very numerous between Belfast and Whitehouse. It must be remembered, however, that there is a heronry at

Parkmount, the seat of H. H. M'Neile, Esq., on that shore; which, strangely enough, is not mentioned by Thompson. I am informed by Mr. M'Neile, that fifty-three years ago, when his present land-steward first came to Parkmount, there was no heronry there. To the best of this man's recollection, the first pair built about the year 1839, which would be ten or twelve years before Mr. Thompson's book was published. Thompson does, however, make allusion to Parkmount, and the Herons, at high water, retiring thither; where, on one occasion, he counted forty-two, which were presumably waiting for the falling of the tide.

On another occasion, after speaking of Dunlins, Red-shanks, and other waders, in terms of admiration, he says:—"The Herons bore off the palm from all the others. After having been driven from the banks by a high tide, they were returning now it had ebbed; and the whole expanse of sky before me was enlivened by their presence. At one view, spread singly over the atmosphere, I reckoned fifty. The many-coloured sky, chiefly blue, with white and rich yellow clouds, against which they were seen, much enhanced their appearance."

On 21st March, 1879, Mr. M'Neile was kind enough to write me that the Herons appeared to be at work at the nests, and he hoped I would go and see them whenever it suited me.

I accordingly went out to Parkmount on the 22nd March. It was about an hour and-a-half after high water; but as it had been a high spring-tide, the water had not yet left the banks. There was a strong and very cold easterly wind blowing. In the open grounds adjoining the house, and at a distance from it of about three to four hundred yards, there was a congregation of about twenty-one Herons collected on the ground at the lee side of

a clump of planting ; some of them magnificently plumaged birds, showing fine tufts and very marked contrasts of colour. Mr. M'Neile was out, but Mrs. M'Neile most obligingly and kindly gave me the following information.

It was only during the last very few days that the Herons had shown any signs of beginning to work at their nests. (I may remark that the 17th March was a very stormy, cold, inclement day, snowing heavily at intervals ; and Friday the 18th was very cold, stormy, and wet, raining heavily almost all day. Wednesday and Thursday, the 19th and 20th, were very fine, and it was on these days the Herons commenced.) They collected sticks in the planting beside which I saw the birds standing, and flew with them to some large old fir trees, opposite to, and at a distance of about one hundred and fifty yards from the house, where most of the nests were situated, a very few nests being in some tall trees nearer the road, and now, when the trees are still bare of leaves, visible from it. To-day, 22nd, the birds were not carrying sticks, there being a strong wind blowing obliquely across the course they would have had to pursue going to and fro.

"I am very sorry," Mrs. M'Neile said, "that you do not see what we call 'the train ;' it was in full work yesterday. By 'the train' we mean a line of birds going from the planting, where they gather their sticks, to the nests, and another line returning ; the two lines following different courses, and being a considerable distance apart, so that the birds never meet."

This constant "circulation" of the birds when they are at work is continued for several hours. Some days they take a somewhat different course.

The birds that I saw sitting in shelter of the trees change their position according to the direction of the wind ; but they have always two sentries, one at each side, and some-

times one up in a tree besides, who give warning at the approach of any apparent danger. Some years ago, the Herons were greatly troubled by the attempted settlement near them of some Grey Crows, and many desperate battles ensued ; but the Herons at length drove the Crows away, and now remain in undisputed possession of their favourite fir trees.

"It is very odd," Mrs. M'Neile continued, "but we remark that more birds congregate there (pointing to where they were sitting) on Sundays than on any other day. We say the Herons are at church then, and it is very funny that on such occasions one bird stands by himself in front of the rest, besides the two sentries. We call this one the clergyman.

"Some of the birds don't pair. They are the old bachelors. We often find young birds dead under the trees ; and sometimes they seem to have been stabbed through the body, as if the parents had too many children, more than they could support, and had killed some of them and thrown them out of the nests."

I then went towards the congregation of birds just mentioned near the planting ; but, when still fully two hundred yards distant, they got up and flew away, some of them lighting in the trees of this small planting, some over in the fir trees where the nests are, and some flying down to the Lough, where the banks were now beginning to bare with the ebbing tide ; and thither the others, when further disturbed, shortly followed.

I next went over to the fir trees, where most of the nests are. Of these there seemed to be about twenty here ; and under three or four of these nests I found the shells of several quite recently laid and broken eggs, some of which had part of the former contents still adhering to their insides. This would seem to indicate that the eggs were

ready for exclusion, and had been dropped, before the nests were ready for their reception. I did not observe any instance of a bird sitting as if hatching, but several birds were standing on or in the tree-tops near their nests.

On 28th March, Mr. M'Neile told me that this week's very severe cold weather had completely stopped the Herons' building operations. They did nothing but gather in groups in shelter of the plantings, and stay there. (On Tuesday, Wednesday, and Thursday of this week it was snowing heavily every day, and bitterly cold, with a N.E. to S.E. wind. On Friday evening, the 28th, the ground was thickly covered with snow.)

A week later, Mr. M'Neile told me the Herons were again very busy, working and talking to one another.

On 17th April, Mrs. M'Neile sent me word that "the Herons now seem to have stopped building."

On Wednesday, 30th April, I went to Parkmount again. It was dead low water at the time. There were a good many Herons about. I counted the nests as carefully as possible, and think there were about twenty-five altogether.

Under most of these lay pieces of egg shells; on some were birds sitting, and in some there were evidently young birds, as I could both see and hear them fluttering in the nests; and, when an old bird came to a nest, a great chattering ensued, reminding me of Montgomery's lines:—

“ . . . when from her search the dam
With laden bill returned, and shared the meal
Among her clamorous suppliants all agape.”

On 29th May I visited Parkmount again, and saw no Herons about the trees or nests; so I suppose the young ones are fledged and gone.

24th February, 1880.—Went out to Parkmount. It was a fine, bright, calm day, and the tide was in. The Herons looked splendid, some twenty-eight or thirty of them

perched on trees, with the dark look of which the elegant, light-grey plumage contrasted with beautiful effect, the graceful variety of their attitudes adding much to the attractiveness of the scene. Some of the Herons were about the nests, and some few were carrying sticks, as if building operations had already begun.

Two other phases of the Heron's presence in these countries remain to be noticed. I mean their pursuit by trained hawks or falcons as a sport, and their appearance at great feasts as a delicacy; but, to get at those phases, one must go back to old times.

The noble sport of hawking was formerly practised in Great Britain to perfection; yet, for their best birds, English falconers were mainly dependent on Ireland, Scotland, Norway, and other countries. Any lengthened description of hawking would be more appropriate to a notice of the birds of prey; but the Heron is so inseparably connected with falconry, that a brief allusion to this sport will not be out of place here.

Old authorities speak of falconry as being, *par excellence*, the sport of the great; and it is alluded to as such both by poets and naturalists. The subject is treated of at great length in the *Ornithology* of Francis Willughby, Esq. (1678); and the importance that was then attached to it is evident from the length and minuteness of his description.

In Bishop Pontopiddan's *Natural History of Norway* (London, 1751), Part II., p. 72, he says of falcons—"Those that are found farthest north are of the best kinds for hawking. . . . I have nothing to do," he continues, "with those that are annually exported from Iceland, and not without a considerable charge; and then are sent far about to foreign Courts. I shall only observe, that here, in Norway . . . there is found extraordinary good falcons for the sport. . . . To catch them we

generally have people come from Germany and the Netherlands annually. . . . They catch but few, from which we may judge of their value, which will answer so long a journey. . . . This falcon-catching is farmed to the Brabant people by a certain family to whom His Majesty has granted it."

This is confirmed by a remark in Sir John Sebright's *Observations upon Hawking*, published in 1825, in which he says that the village of Falconsward (or Valkensward), near Bois-le-Duc, in Holland, has for many years furnished falconers to the rest of Europe.

The species most used were the Jer-falcon, or Gyr-falcon, the Goshawk, and the Peregrine falcon. The former is a large and very powerful bird. Those used in falconry were generally obtained from Iceland. They were of great value, and their possession was regarded as almost exclusively an appanage of Royalty itself.

The Peregrine was, and is, much more common; and young birds of this species were obtained in Scotland, the Hebrides, and Ireland. I have seen them at different places in Ireland myself; at the Gobbins and the Causeway cliffs, in the County Antrim; at Downhill, in the County Derry; and at Horn Head, in Donegal; and I wish to record my thanks to my friend Mr. G. W. Wolff, for a fine specimen of the Peregrine, shot on his moor near Cushendall, Co. Antrim, in September, 1879, and which he very kindly presented to me.*

* Mr. Wolff mentioned having, on two or three occasions, about the same time that the Peregrine was killed, and on the same moors, seen a very large white Hawk, much larger than the Peregrine. He described minutely this large Hawk's flight, and method of carefully examining the ground. From Mr. Wolff's description, I am disposed to think the bird must have been a Gyr-falcon, a bird the capture or even the appearance of which has not been recorded in Ireland, so far as I am aware, since 1803.—See *Thompson*, vol. i., p. 31.

I can find no record of the value of trained Iceland Falcons, as the Gyr-falcon was sometimes called, but it must have been very great when a "cast" or pair of the more common species, the Peregrine, is said to have been purchased by Sir Thomas Monson, in the reign of James I., for one thousand pounds, an enormous sum in those days.

As Herons were an almost indispensable dish at all great feasts, and as hawking at Herons was regarded as an important national sport of the nobility and gentry, the possession of a heronry was considered to add to the value of country seats, and to the dignity and importance of county families. For the further fostering of the sport, both Falcons and Herons, with their nests, eggs, and young, were protected by various legal enactments, almost all since repealed, but some only within the present century.

Allusions to hawking are familiar to all readers of poetry. In Spenser's "*Faerie Queene*," for instance, the appearance of which dates back to the years 1590 and 1591, we read—

"As when a cast of Faulcons make their flight
At an Herneshawe that lies aloft on wing;
The whiles they strike at him with heedlesse might,
The wary fowle his bill doth backward wring."

While some modern authors deny it, others allege that the Heron when pursued does so defend himself. Of this more shortly.

Shakspeare says (*Hamlet, Act II., Scene II.*):—"When the wind is southerly, I know a hawk from a handsaw corruption of hernshaw, *i.e.*, a Heron.

Sir Walter Scott's allusions to hawking are frequent for instance,

“ The Hounds, the Hawk, her cares divide,

And at her whistle, on her hand
The Falcon took his favorite stand,
Closed his dark wing, relaxed his eye,
Nor, though unhooded, sought to fly.”

Lady of the Lake.

Longfellow's lines are well known—

“ Far in the northern land,
By the wild Baltic's strand,
I, with my childish hand,
Tamed the Jer-falcon ;”

and in another poem he says,

“ I beheld the gentle Mary,
Hunting with her hawk and hound.”

Numerous other instances might be given ; but these will suffice to show how the sport was written of by poets, both ancient and modern :—

A prose writer, John Swann, M.A., of Cambridge, in a work published in 1635, says :—“ The Heron, or Hernesaw, is a fowle that livith about waters. . . . She hath her nest in very lofty trees, and sheweth, as it were, a natural hatred against the Gosse Hawk and other kinds of Hawks ; and so likewise doth the Hawk seek her destruction continually. When they fight above in the aire, they labour both especially for this one thing—that the one might ascend and be above the other.”

Willughby mentions that, to protect the Hawks from injury from the Heron's bill (which there is no doubt whatever he can use with great effect when on the ground), the falconer should run in as soon as Hawk and Heron reach the ground together, and thrust the Heron's bill into the earth—a practice which, as I learn from Burton's *Falconry in the Valley of the Indus* (London, 1852), still prevails among Indian falconers.

In Sir John Sebright's work, hawking at Herons, ~~was~~ then practised in Norfolk, is thus described—"A well ~~l~~-stocked heronry in an open country is necessary for th ~~is~~ sport; and this may be seen to the greatest perfection ~~at~~ Didlington. This heronry is situated on a river, with ~~a~~ an open country on every side of it. The Herons go ~~o~~ out in the morning to rivers and ponds at a very considerab ~~le~~ distance in search of food, and return to the heron~~ry~~ towards the evening.

"It is at this time that the falconers place themselv~~es~~ in the open country, down-wind of the heronry, so th~~at~~ when the Herons are intercepted on their return hom~~e~~, they are obliged to fly against the wind to gain their plac~~e~~ of retreat. When a Heron passes, a cast (a couple) ~~of~~ Hawks is let go. The Heron disgorges his food when h~~e~~ finds that he is pursued, and endeavours to keep above th~~e~~ Hawks by rising in the air; the Hawks fly in a spir~~e~~l direction to get above the Heron, and thus the three bird~~s~~ frequently appear to be flying in different directions.

"The first Hawk makes his stoop as soon as he gets abov~~e~~ the Heron, who evades it by a shift, and thus gives th~~e~~ second Hawk time to get up and to stoop in his turn. I~~f~~ what is deemed a good flight this is frequently repeated~~ly~~, and the three birds often mount to a great height in the~~y~~ air. When one of the Hawks seizes his prey, the othe~~r~~ soon binds to him, as it is termed, and, buoyant from the~~y~~ motion of their wings, the three descend together to the~~y~~ ground with but little velocity.

"The falconer must lose no time in getting hold of the~~y~~ Heron's neck when he is on the ground, to prevent him~~s~~ from injuring the Hawks. It is then, and not when he ~~is~~ in the air, that he will use his beak in his defence. Hawks have, indeed, sometimes, but very rarely, been hurt by striking against the Heron's beak when stooping; but this

as been purely by accident, and not, as has been said, by the Heron's presenting his beak to his pursuer as a means of defence. When the Heron flies downwind he is seldom taken; the Hawks are in great danger of being lost; and as the flight is in a straight line, it affords but little sport."

Another authority, my friend Dr. Carpenter, says—"As Falcons can do little or nothing to a bird above them, the Heron is in perfect safety as long as he can keep uppermost. . . . Even when the Falcon does get uppermost, its victory over the Heron is not so certain as over other birds; for the Heron can so turn its neck as to cause its rayonet-like bill to project upwards behind the wing at the same time that its flight is continued; so that, when the Falcon darts downwards, it runs the risk of being impaled upon this formidable weapon. The difficulty which the Falcon has in mastering the Heron made the hawking of that bird a very choice and even royal sport; and in the days when Falcons were domesticated for this purpose, Herons also were preserved as other kinds of game are now."

Here there is a distinct difference of opinion between the naturalist and the sportsman as to the Heron using its powerful beak as a weapon while on wing; and I am inclined to think that Sir John Sebright is more probably correct, for I have seen a Heron attacked by a couple of rooks, and chased and buffeted by them till all three were out of sight, without the Heron even attempting to defend himself from his contemptible assailants. His sole object seemed to be to avoid them.

Although foreign to the immediate subject now under notice, as Hawks have been mentioned, I may make some little further allusion to them as referred to in public documents in Ireland, and also in England, during the thirteenth and following centuries. (These are taken from a paper on *Hawks and Hounds in Ireland*, by J. F. Prendergast, Esq.)

In the year 1215, the King (John) sends, with a writ, to John Fitz-Hugh, by William de Merc and another, "three gire-falcons, and Gibbun the gire-falcon, than which we have none better, and one Falcon-gentle, to be put in mew, and directing him that the birds are to be provided with plump goat's, and occasionally good hen's flesh, and once a-week with hare's flesh.

In 1218, Reginald Talbot was "found seized of Dalkey, rendering therefor a Goshawk annually."

On 21st September, 1219 (Henry III.), the Sheriff of Northampton is directed to supply with necessities Walter de Hauville during his stay at Northampton, to "ensain Blakeman, the King's gire-falcon, and to make him fly three or four times a-week.

In Edward III.'s reign, his falconer, William of Troyes, was sent over to Ireland to purchase for the King six Goshawks and six Tarsels.

Foreign demand making Hawks and Falcons dear in Ireland, restrictions were put upon their export. Thus, in the year 1386, proclamation was made by the King (Richard II.) against exporting any corn, falcons, hawks, or tarsels "in ships to foreign parts;" and in 1400 (Henry IV.), searchers were appointed to seize any "horses, arms, fish, corn, hawks, or tarsels, or falcons attempted to be taken out of the land."

Further legislation on the same subject took place, *inter alia*, in the year 1480 (Edward IV.).

In the time of Henry VIII., Hawks had become one of the choicest presents that could be made out of Ireland. The Archbishop of Dublin sent some as a present to the "King's Highness;" the Dowager Countess of Ormonde sent the King two Goshawks; and the Earl of Ossory sent two to "Maister Secretary," and one to the Lord Chancellor.

To resume the subject.

Allusions are very numerous among old writers to the Heron as an article of food, and as a favourite, if not even an indispensable dish at all great feasts.

In the time of Edward I. the cost of a Heron was sixteen pence, a very high price for those days, and no water-fowl was valued more highly; at the same time a Mallard was worth only three pence and a Teal twopence. In an ancient cookery book of the year 1381, it is said, but in the quaint language of the time, that Herons should be served with flesh of swine, roasted, and eaten with ginger. The *Northumberland Household Book* of the time of Henry VIII. says—"At principal feestes. Item, it is thought likewise that Hearonsewys be bought for my lorde's owne uses, so they be at XIIId. a pece."

In a book by a writer named Barclay, published in 1570, the following lines appear :—

"The crane, the fesant, the peacocke, and curlewe,
The partriche, plover, bittorn, and heronsewe,
Seasoned so well in licour redolent,
That the hall is full of pleasant smell and scent."

You see here how the "Heronsewe," that is, the Heron, is mentioned in very good company, as is also the Curlew.

So lately as the early part of the last century Herons were still much esteemed. Nearer our own time, Mr. R. Davis of Clonmel observed, "Heron when young are excellent eating. By cutting off the wings, tarsi, and head, and making them into *wild-geese*, I have had them cooked as such, and an excellent dish they make, in my estimation fully equal to grouse; but if not disguised, it is hard to have justice done them, so great is the prejudice against eating such unchristian, birds." *

* Thompson, vol. ii.

Mr. Alexander Meenan tells me that the flesh on the breast of a Heron, skinned and broiled, is most excellent eating.

Heronries are of so frequent occurrence in the three kingdoms that any enumeration of them is uncalled for here. Nearest ourselves are, besides that at Parkmount already mentioned, those in Belvoir Park and in Hillsborough Park. At these places the Herons build in what is, strange as it may seem for birds of their size and shape, their favourite haunt ; that is, in lofty trees.

Mr. J. Luard Pattisson told me that a few Herons have recently commenced building in Clandeboye demesne. The place is so suitable, my only wonder is that they have not been there long ago. To their usual practice of building in trees exceptions are recorded, and some shall be mentioned.

The Herons collect in colonies, like rooks, but not in anything like their numbers. They pair early ; and, while the old nests are repaired, some new ones are built. The nests are very large and flat, built of sticks and rods, crossed and interwoven together, and lined with smaller twigs and grass. The Heron sitting on her eggs has a most awkward appearance, her unmanageably long legs sticking out behind her over the edge of the nest.

When Herons leave their nests, as in search of food, they always leave two or three as sentries to guard their eggs and young from the depredations of rooks, jackdaws, and other such birds. These, however, may only be carrying out reprisals ; for some authors assert that Herons rob rooks' nests of their young birds to feed their own young with !

Sir William Jardine remarked, that although he had heard of Herons building on the ground, he could not trace the statement to any authentic source. Regarding

is, Mr. Thompson described at some length a heronry where the nests were on the ground in the island of Islay.

Heron sometimes build in sea cliffs. Mr. Gray speaks of a very remarkable heronry—remarkable from its extent as well as its position—on Ardnamurchan Point, that is, the point at the northern side of the western extremity of the Sound of Mull. His informant said—"It was on the Point of Ardnamurchan, where the rocks are tolerably steep, and covered with ivy and shrubs, among which the herons had built their nests. It was an extraordinary sight, when pulling along shore, to find hundreds of young birds sitting on the ledges, and stretching their long necks to look down at the party in the boat."

This description of the young Herons in their nests reminds me of the young Cormorants at Horn Head in Donegal, "craning" out their necks to look at the intruders into the recesses of their sea caverns.

Mr. Gray mentions a small heronry in a still different position—namely, on the top of the walls of a ruined castle on a small island in a loch in Islay. It will be seen, therefore, that the Heron, although preferring to build in lofty trees, does not confine itself to such.

The Heron is one of the earliest birds to breed, and is generally considered to bring out two broods in the year—three to five in each brood. The bird is so common in Ireland, and particularly in this neighbourhood, that I fear my description of it may be considered rather tedious. I shall conclude it by saying that the bird has a wide geographical distribution over Europe and Asia; but Wilson says "the common Heron of Europe is not an inhabitant of the United States," although he mentions no less than five or six other species that are. It is common in the Hebrides and in Shetland, but does not appear

to breed in either. As might be expected from the nature of the country, it is abundant in Holland; but in the northern and eastern parts of Germany, and in part of Poland, which I visited in May, 1878, I saw scarcely any Herons, while Storks were quite common. I regret the absence of Storks from this country: they are fine, large, handsome birds; and they become familiar from the way they are protected and even encouraged to build about houses, in many places by flat boards being placed on the roofs for the purpose of receiving the nests. It is considered lucky to have them about a house. In several instances in May, 1878, I observed one Stork, presumably the female, sitting on the nest on the top of a farm-house or barn, and the other bird either standing close by or in an adjoining field. One sometimes sees the Storks resting on a flat board placed upon a tall pole, or upon the summit of a poplar tree, the top of which has been sawn square off for the purpose of receiving the board. In May, 1867, I saw an enormous number, certainly several hundreds, of Storks in the course of a few hours' journey through the low-lying parts of the province of East Prussia that border the Baltic Sea, between Königsberg and Danzig. I find the veneration entertained by the peasantry of those parts for the Storks does not extend to sportsmen, by some, at least, of whom the birds are detested. From their height they command an extensive view, and often warn wild ducks and other birds of the approach of danger; greatly to the disappointment of the sportsman, who sometimes, if he can contrive to do it unobserved, lets the Stork receive the charge of shot that was intended for those who took the watchful bird's friendly warning and departed.

CHAPTER XI.

CURLEWS AND OYSTER-CATCHERS—STARLINGS.

Wild as the scream of the Curlew,
From crag to crag the signal flew.

Lady of the Lake.

AMONG the wading birds of the Lough, next to the Heron in size and importance comes the CURLEW (*Numenius Arquata*).

This bird is common in suitable places throughout land, and especially so in a locality like Belfast Lough, which, from its character as a tidal bay, leaving a great panse of foreshore exposed at low water, is particularly suited to the habits of the Curlew, and of several other wading species. Unlike the Heron, which is now no longer regarded as fit for the table, the Curlew is still generally considered good eating, although not so much so as formerly; and is therefore an object of pursuit, as well by amateur sportsmen as among professional shore and puntmen. Their persecution by these has so increased the natural wariness of the Curlews, that in localities like this, where they are much looked after, they are never seen by the ordinary observer except at a distance. Most people who are about the Bay, however, will have sometimes noticed the long flights of birds that frequently fly up and down the Bay. It is generally the Curlews which, from their size and numbers, attract most attention; although many of the other waders follow the same course.

Let us suppose it low water in the Bay: some thousands of acres of slob lands, commonly called the banks, have

been left bare by the ebb tide. Over this wide expanse, which twice a-day the flood tide covers, and converts into "pastures new," the gregarious wading birds, Curlews, Redshanks, &c., are scattered. As the incoming tide covers their feeding grounds, the birds are gradually forced nearer the shore, and into closer proximity to one another. Some parts of the banks are higher than others; and here and there there may be a little islet or other eminence on which the birds may yet linger; but as their last havens become gradually covered by the rising waters, they are finally compelled to betake themselves elsewhere; so first one, then another, and finally a whole flock—or, to be more correct, as it is Curlews we are speaking of, a "herd"—rises, and starts on a long journey, say from the banks between Sydenham and the Kinnegar, near Hollywood, away to below Groomsport. When the herd first rises, it is an irregular cloud; but the Curlews soon settle into a more orderly line of flight, generally in the form of a wedge >, with one leg longer than the other. They often alter their order of flight; sometimes change leaders; and not unfrequently the line of birds undulates or waves in a manner that gives a peculiarly graceful appearance to the flock.

In this manner the Curlews wing their course in a line varying in distance from, but parallel to, the shore, but seldom within shot of it, to the quiet rocky points and islets nearer the entrance of the Bay. If the day be wet and stormy, a few may betake themselves to the large fields below Carnalea House, and between that and Bangor; but they generally go further, to the rocks near Ballymacormick Point, at the eastern extremity of Ballyholme Bay, the "Briggs," below Groomsport, Orlock Point, and the Copeland Islands. Here they await the falling of the tide; and at from about an hour and a-half to two

hours and a-half after high water they start on the return journey to their feeding grounds on the banks. This is the explanation of the regular flights of these strings of birds that one often sees; the time of return varies with the extreme height of the tide; it being at a certain state of the tide, rather than at a fixed hour after high water, that the birds return to the banks. They must have certain marks, or must know somehow from the state of the tide and height of water on the rocks below, how it will be on the banks higher up the Lough.

The habits of the Oyster-catcher, Redshank, and Dunlin or Sandlark, not to mention other less numerous species, are similar to those of the Curlew just described, so far as regards their flights up and down the Bay; and I say so now, as these species are sometimes mentioned together in my notes, of which I am now going to give some extracts.

21st January, 1871.—High water at 11.10. Strong S. wind. Out sailing to-day: we got back to close off Holywood about two hours and three-quarters after high water. Many of the birds had already come up; but we saw a few Curlews, some Oyster-catchers and Redshanks, and a great many flocks of from eight or ten up to fifty or sixty Sandlarks. I observe that when there is a strong southerly wind blowing, the birds hug the Co. Down land closer than at other times.

28th November, 1872.—High water at 8.52 a.m.: dead calm, and very foggy. Went out in a boat at half-past nine o'clock a.m. At 11 o'clock the birds began to come up over the ebb tide. First a flock of Redshanks high up; more Redshanks; then Sandlarks; a few Lapwings; then more Redshanks; Grey Plover; Oyster-catchers, Curlews, &c., &c.; until by shortly after twelve they seemed to have all come up.

Passing over several similar intermediate references, I come to some more recent notes :—27th, 28th, and 29th August, 1878. From Bangor I watched the wading birds, Curlews, Oyster-catchers, and Redshanks, on their flights down the Lough at flood tide, and up at ebb. The length of time that they go down before high water is irregular ; but they begin coming up very regularly one and a-half to two hours after high water, these being spring tides. About six to eight hundred Curlews fly down and up now. In one flight I reckoned about three hundred.

26th and 27th January, 1879.—High water at 1.15 and 1.45 p.m. respectively. On the first-named day, between half-past three and four, I saw two good-sized bodies of Curlews, perhaps sixty or eighty in each, flying up past Holywood. On the second day, the birds were just as much later as the tide was. I watched, passing up parallel to the Kinnegar at four till half-past four this afternoon, Curlews, Redshanks, Oyster-catchers, and Dunlins, all in small companies.

The next day, 28th January, with the tide again half-an-hour later, the first of the birds that I saw coming past Holywood was a flight of about one hundred and fifty Curlews at half-past four exactly.

The punctuality of the birds is really wonderful. On ordinary occasions one can reckon within a short time of when they may appear. But the tides, whether spring or neap, make a difference.

Some few Curlews are to be seen in the Lough even during the breeding season, when the great majority of their fellows are absent ; but far the larger proportion of those that are to be seen here during the winter months were bred abroad, and migrated hither ; while some few breed in remote and unfrequented mountain districts in Ireland.

Anxious for more precise information than the last paragraph contains about the Curlews here in the breeding season, I watched them particularly during the summer of 1879, and observed on 18th June about fifty Curlews and eighty to one hundred Oyster-catchers near Sydenham, Co. Down.

19th June.—Saw the same Curlews and Oyster-catchers at same hour and place as yesterday. . . . The upper end of the Lough is very bare of birds now. No Redshanks or Sandlarks, and hardly any Gulls, here at present.

1st July.—Saw again about fifty Curlews and double that number of Oyster-catchers at Sydenham this morning. Same evening, an hour and three-quarters before high water, saw about one hundred Oyster-catchers flying down the Lough.

From these and other confirmatory notes, it seems that about the numbers mentioned of these two species remained here, on the shores of the Lough, all summer.

Now, as to the return of their fellows, I noted an increase in the number of the Curlews, for the first time, on August 2nd, 1879. On August 3rd, at least a hundred new arrivals were to be seen, and by 9th August the number had further increased. On 10th August I noted :— High water at 3.45 p.m. ; neap tides. At 3 p.m. to-day, saw an unusually large body of Curlews flying down. They were in a long and widely extended > shape, and presented a very fine appearance, spread out on the clear, blue background of bright summer sky. There were about 400 birds in this one flight.

As the autumn advanced, I observed that, towards evening, the birds frequently left the banks, on the downward flight, earlier than the state of the tide would have rendered necessary. In this I think they must have been influenced by a desire to get to their destination

before dark. They seem unwilling to fly down on wet days.

The usual note of the Curlew is a not unmusical cry, like its own name, or rather like its name as pronounced in French, "Courlis," or "Courliew," and they are often to be heard calling to one another by this note. Very different, however, is the wild, unearthly yell they give, when once started on wing, if disturbed among the mountains. From this other note they get the name of "Whaup," or "Whaap," by which they are better known in Scotland and in the country districts in the North of Ireland.

Their note is thus described by Canon Kingsley in *Hereward the Wake*. He says—"And they rowed away . . . through the narrow reaches . . . where the coot clanked and the bittern boomed, and then out into the broad lagoons. . . . Into the air, as they rowed on, whirred up great skeins of wild fowl innumerable . . . while clear above all their noise sounded the wild whistle of the Curlew."

Curlews were formerly very highly esteemed as delicacies for the table, and paid for at what were in those days high rates, partly because it was considered that they were particularly clean-feeding birds, living entirely by suction, as snipes were supposed to do, and not eating any gross food.

"In the account book of Robert Bennett, bursar of the Priory of Durham, 1530 to 1534, are entered as purchased—'1 Curlew 3d.;' '3 Curlews et 1 whympernel (that is whimbrel) 13d.' At that time a Barnacle Goose was also worth 3d."—Folkard's *Wild Fowler*.

A couple of hundred years earlier, prices were somewhat different. In an account of the expenses of the Feast of the Holy Cross at Conisbrough on the 15th and 16th

September, 1321, the following items appear (among many others):—"In eight fowles bought, one shilling. In two geese bought, eight pence. In sixteen gallons of ale bought at Conisbrough, sixteen pence." But the people don't seem to have been very lavish either, when we see that one of the items is—"In a woman's wages for fetching the ale, one penny."—Daniel's *Rural Sports*, pp. 286-7.

In the *Northumberland Household Book*, already mentioned, begun in 1512, this appears—"Item, Kyrlewes to be had for my lorde's own mees at pryncipall feestes, and to be at XIIId. a pece."

In this connexion I may mention the prices of some other birds at that time:—Crane, 16d.; Heron (as already mentioned), 12d.; Mallard, 2d.; Woodcocks and Seagulls (Black-headed Gulls), 1d. to 1½d.; Teal, Wigeon, Lapwing, Redshank, and several others, each 1d.; Quail, Partridge, Corncrake, each 2d.; Pheasant, Curlew, Peacock, each 12d.—Daniel's *Rural Sports*. Observe the position and high price of the Curlew here. Terns at the same time cost fourpence per dozen, and Larks sixpence per dozen.

In Willughby's *Birds*, I read of the Curlew—"This bird, for the goodness and delicate taste of its flesh, may justly challenge the principal place among water-fowl: of this our fowlers are not ignorant, and therefore sell them dear. They have a proverb among them in Suffolk—

"A Curlew, be she white, be she black,
She carries twelve pence on her back."

In Stevenson's *Birds of Norfolk* (vol. ii., pp. 198, 199), he mentions that on one occasion (the date is not given) three Curlews fetched, in Snettisham market, two shillings, the then price of a fat sheep, whilst at the same time three Woodcocks were procured for sixpence. That is, that one Curlew was then worth the same as four Woodcocks. The

most startling fact, however, for modern housekeepers appears as follows in the year 1519 :—" Item pd. for a goos vd. ; a pygge iiijd. ; ij curlews xijd."

Curlews are common in Scotland and throughout the Isles, but are there regarded, in some districts at least, with a feeling of superstitious dread, and spoken of as something "uncanny."

Dr. Saxby says—"The Shetlanders regard with horror the very idea of using so uncanny a bird as food ; indeed I am acquainted with a visitor who, having made the bold attempt, was for some time afterwards frequently alluded to as 'the man that ate the whaup.'"

One often hears Curlews calling loudly flying over the town at night. On foggy nights, too, I have occasionally heard overhead a tremendous outcry of wading birds, which, I suppose, had lost their way in the fog ; and I have sometimes, by imitating their cries, brought them so near as to hear the rustle of their wings. The Curlew is the wariest of all the shore birds, and partly for this reason, as well as from its superior size and goodness, is all the more prized when obtained.

The next most prominent of our waders is that sprightly bird, the OYSTER-CATCHER (*Haematopus Ostralegus*), called also the Seapie, from its very distinct black and white plumage, resembling that of the Magpie. The Oyster-catcher has bright orange bill and legs, and is a handsome, lively, and attractive-looking bird.

It is in many respects a curious bird. It has but three toes instead of the more usual four. Its bill is peculiarly formed, strong and wedge-like, admirably adapted to the habits of the bird for opening bivalve shells, detaching limpets from the rocks, or for digging. It is common on the shores of the Lough, where its habits much resemble those of the Curlew as to its regular flights up and down

the Bay ; going towards the time of high water to the rocks near Ballymacormick Point and the Briggs, till their instinct or experience (which is it?) tells them that the banks begin to bare again with the ebbing tide. On these flights the Oyster-catchers generally proceed in flocks varying from a very few up to sometimes a hundred or more in a body.

To refer at greater length to their flights would be only repeating what has been already said about the last-mentioned species noticed, except that I observe the Oyster-catchers generally keep further from the shore than the Curlews. Their feeding grounds, too, are principally on the far-out mussel banks, which, as they lie nearest the deep water, are the first to cover and the last to bare with the flowing and ebbing tide. Hence the flight of this species does not always take place simultaneously with that of the Curlews.

Most of these shore birds are pretty good swimmers : of that I was well aware, but was not prepared to find, as I did, that the Oyster-catcher is quite an expert diver. Of this, however, I noted :—28th November, 1872. Out boating. On the birds coming up over the ebb, I shot an Oyster-catcher out of a small flock. It was only winged ; and, strange to say, it dived when we went to catch it. It remained a long time under, and moved a rather considerable distance from the spot where it went down. After a little, on our second approach, it dived again, close to us ; and as the water was calm, shallow, and clear, we could see it all the time it was below. Its principal effort this time seemed to be to remain under water ; and it certainly did not use its wings to aid its progress through the water. For fully a minute an occasional easy back-stroke of the paddles was sufficient to keep us almost above it ; till, finally, when it could stay

under no longer, it slowly rose to the surface, and on emerging I caught it by the head and put an end to its sufferings.

In Wilson's *American Ornithology* the following passage, referring to the Oyster-catcher's diving powers, occurs:—"The Oyster-catcher will not only take to the water when wounded, but can also swim and dive well. This fact I can assert from my own observation, the exploits of one of them in this way having nearly cost me my life. On the sea-beach of Cape May, not far from a deep and rapid inlet, I broke the wing of one of these birds, and, being without a dog, instantly pursued it towards the inlet, which it made for with great rapidity. We plunged in nearly at the same instant, but the bird eluded my grasp, and I sank beyond my depth; it was not until this moment that I recollected having carried my gun in along with me. On rising to the surface, I found the bird had dived, and a strong ebb current was carrying me fast towards the ocean. Encumbered as I was with my gun and all my shooting apparatus, I was compelled to relinquish my bird and make for the shore, with considerable mortification, and the total destruction of the contents of my powder-horn. The wounded bird afterwards rose and swam with great buoyancy out among the breakers."

These birds are very partial to mussels, which, with whelks, here form their principal food, hence the commonest local name for the bird is "Mussel-picker."

In some places the chief food of the Oyster-catcher consists of limpets, which their strong wedge-like bills enable them to detach from the rocks. Mr. Robert Gray, in one of his interesting notes, says—"I have many times studied the habits of this shy bird, when lying concealed on the shore waiting a shot at passing wild ducks or other

birds I was in quest of. I recollect seeing about thirty in a flock pitch upon a shelving rock from which the waves had just receded, and commence an attack upon the limpets, which were very numerous. Being within three or four yards of them, I could distinctly perceive their movements, and could not help being struck with their dexterity in overturning the shells, and scooping out their contents. Sometimes a bird would run forward to a limpet and bend down its head sideways, as if in a listening attitude, then it passed to another and another, repeating the scrutiny apparently to see if the shell was at all raised from the rock, until it found one ready for treatment, which it immediately put in force by thrusting its thin-pointed bill suddenly between the edge of the limpet and its point of attachment, and turning it neatly over ; one foot was then placed on the object, and the animal taken out as cleanly as if done with a knife or other sharp instrument."

Again, one of my own notes :—27th January, 1879. Dead calm ; hard frost. Between four and half-past four this afternoon I was watching from the Kinnegar, Hollywood, some of the wading birds coming up. The little bunches of Oyster-catchers flew up rapidly, low, and noiselessly, the individual birds in each flock being far enough apart for the image of each to be distinctly reflected in the glassy water below. Gulls of various species were very numerous to-day : some thousands, I should say, were in view at one time, scattered over the banks as far as the eye could reach. They kept up an incessant clamour. The protracted severe weather seems to have drawn all the inland Gulls to the sea, for I never saw them so numerous or so tame as they have been of late in the Lough, and even up among the shipping in the harbour. A short time since, Gulls were seen in the

coolers of some of the mills on the Falls Road, as I was informed by Mr. Mulholland and Mr. Richard Garratt.

The Oyster-catcher is common round the coasts of the British Islands, and has an extensive geographical distribution pretty nearly all over the coasts of the temperate zone in the Northern Hemisphere, or perhaps even farther. They breed in suitable localities in this neighbourhood. Mr. Thompson found their nests on some of the islands in Strangford Lough ; and in more remote districts, such as Horn Head, in Donegal, they breed in large numbers. I have seen them on the Copeland Islands in summer, flying very uneasily about, and believe they had nests there, though I could not find them.

Like the Curlew, the Oyster-catcher is very wary, and is not only difficult of approach himself, but frequently, by his loud warning cry, announces the presence of danger to other birds or animals that the sportsman may be trying to stalk ; certain notes and sounds in the animal kingdom being evidently quite intelligible to species other than that of the individual giving the alarm.

Dr. Saxby says—"However agreeable these cries may be at other times, they grate most unpleasantly upon the ear of the gunner ; often when he has toiled patiently to approach unperceived a fine seal, for example, or a big sea otter, his perseverance is rewarded by its instantaneous disappearance beneath the waves, as the Oyster-catcher dashes overhead, shrieking forth his discovery of the whereabouts of the common enemy—a service too often followed by a mingled explosion of strong language and gunpowder, and the concluding spectacle of a confused mass of pied plumage and vermilion bill lying among the dark weedy rocks at the water's edge."

The LAPWING, or PEEWIT (*Vanellus Cristatus*), cannot be regarded as a shore bird in the same sense that those I

have been speaking of are, but is so often seen on and near the shore as to warrant its introduction here, although the bird is so well known as not to require any lengthened notice. Their usual haunts are the bog, mountain, and moorland; and in such places they formerly bred very abundantly, and still do to a considerable extent, in Ireland. I have found their nest, with the young apparently about a week old, on the Holywood hills early in April.

Lapwings are occasionally kept in gardens, where they are supposed to do good service in the devouring of insects, grubs, and worms.

Bewick mentions one so kept in a garden making its way into the house in winter. Timid at first, it gradually became more familiar, and ended by making friends with the cat and dog, in whose society, and unmolested by either, it spent every evening.—Morris, vol. iv., p. 95.

In Norfolk, according to Mr. Stevenson, and hereabouts also, the Lapwing is declining in numbers; the reverse being the case in some other places. As might be expected from the nature of the country, Lapwings are numerous in Lincolnshire, where Mr. Cordeaux, in his *Birds of the Humber District*, says their number "has certainly increased largely during the last ten years."

The varying numbers of birds and fishes in the same locality at different periods, one species almost disappearing, while another, formerly very scarce, becomes abundant, is sometimes difficult to account for.

The most remarkable instance of this that I know of in the neighbourhood of Belfast is to be found in the case of the Starlings. Thirty years ago, about the year 1850 or so, within my own recollection, they were quite rare here; but, from what Mr. Thompson says, it seems that early in the present century they had been abundant, and about

the time his work was published were beginning to return. "The fact of the Starling," he says, "having deserted the town of Belfast for about forty years, and two or three pair returning again last season, is singular."—Vol. i., p. 19.

Within eighteen or twenty years of the period that Mr. Thompson speaks of "two or three pair returning," or of my own recollection of their being quite rare here, I have seen a flock of certainly not less than 10,000 to 12,000 Starlings flying over the grounds of Lowwood and Fortwilliam Park, and going through the most graceful and beautiful evolutions before roosting for the night. Since then, again, and up to the present time, the Starlings seem to be continually increasing, and becoming more widely and generally diffused all over the country, till they have become one of the most frequently occurring birds we have.

Some years ago I watched a pair that built under the roof of our stable at Marino (Co. Down), and they brought out two broods, each of about five young, in the season.

I see that in the new edition of Yarrell's *British Birds*, part xi., now coming out under the careful and able editorship of Professor Newton, doubts are expressed as to the Starling bringing out two broods in the year. In the instance above alluded to, however, I have no doubt whatever that it was the same pair brought out both broods. I saw them near, and almost daily, for a period of three or four months.

CHAPTER XII.

REDSHANK—DUNLIN—DOTTEREL—COOT—TURNSTONE—
 SNIPE, ETC.

And under them again (that water never take,
 But by some ditches' side, or little shallow lake
 Lie dabbling night and day) the pallat-pleasing snite,
 The bidcock; and, like them, the redshank, that delight
 Together still to be, in some small reedy bed,
 In which these little fowls in summer's time were bred.

DRAYTON'S *Poly-Olbion*, Song xxv.

I NOW come to the REDSHANK (*Totanus Calidris*). This handsome and interesting bird has a very wide geographical distribution, being well known on almost all the coasts of Europe. It is also found abundantly in suitable localities in Asia and Africa. For the reasons already mentioned, and which make Belfast Lough such a favourite resort of the wading birds generally, the Redshank is very abundant here. A few may be seen even in summer, and a small number breed in these countries; but the numbers found here in autumn and winter are so large, it is evident that by far the greater proportion of them have been bred elsewhere, presumably in more northern latitudes, and have migrated hither.

To judge of this species by the descriptions of it in several books that I have consulted, I think Thompson is quite correct when he says that "this bird appears to be much more common around the shores of Ireland than those of Great Britain," except perhaps in Norfolk and Suffolk, where, to judge from the description of the species in Stevenson's *Birds of Norfolk* (ii., 203), it was formerly

very abundant, breeding on the Norfolk Broads in such numbers that its eggs and those of the Lapwing were gathered for sale; nearly a bushel of the eggs of these two species, with a few of the Reeve and the Terns, were gathered by two men in a morning. These eggs were no doubt all sold as "Plover's eggs," which are considered a great delicacy, and sold at threepence each. It is the egg of the Lapwing that is the real "Plover's egg;" but as demand produces supply, other kinds are frequently substituted, and these "spurious imitations" palmed off on the unwary.

The Redshank seems now to be abundant in Norfolk only in autumn, and again in spring, when the birds are evidently on their emigration.

To return to our home birds, I find the enlivening presence of this handsome species a frequent source of pleasure. The birds return, after their summer absence, very early, and with great regularity, generally appearing in numbers about the last week in July or first week in August, with a few individuals coming even earlier. In the summer of 1878, I saw young birds for the first time on the 20th July. The flight of the young birds is peculiar; the wings do not seem to be stretched to their full extent; they are moved in short, sharp flaps, and then the bird "sails" lightly and gracefully for a short distance before repeating the impetus. The wing of the Redshank is of peculiarly elegant shape and proportions; the white on the margin of the secondaries appears in beautiful contrast to the dark plumage of the wings and back when the bird is flying; and, on alighting, the wing is flung up so as to expose, in a momentary flash, the silvery under-surface.

These birds follow the same course, already fully described when noticing the Curlew, of flying down the

Lough at flood, and up to their feeding grounds again at ebb tide. On these occasions their flight is bold and rapid, the flock frequently numbering many hundreds, and varying constantly in shape and appearance.

The Redshank swims and dives well. In the *Birds of Norfolk* (p. 213), an interesting anecdote is given of two old Redshanks conveying their three young, which were swimming slowly on one of the broads, from one feeding ground to another.

A large flock of these birds offers sometimes a tempting shot to the gunner. There are frequent instances on record of more than a hundred having been killed at one discharge of a swivel-gun. Mr. James M'Gee told me that, during the severe frost in December, 1878, a gentleman killed, near Sydenham, Co. Down, 125 Redshanks and Golden Plover at one discharge of his punt-gun. On my mentioning this circumstance to Mr. Alexander Meenan, he told me he had heard of it, and added—"I once killed more than that at one shot at the same place myself;" and he since told me that he killed above one hundred and fifty Redshanks and Greenshanks there at one discharge. I mention this as an illustration of the great numbers in which these birds sometimes congregate together. On the mornings of the 3rd, 4th, 5th, and 7th February, I was much pleased at the beauty of the Redshanks' plumage, and their graceful flight, near the railway leading from Holywood to Belfast. Looking down on them from the elevation of the railway carriage, as they rose from the water's edge, only to take a short flight as the train passed, and then alight again, their plumage and flight were seen to the greatest advantage, as they were quite near. It is wonderful how soon the shore birds learn that no danger need be apprehended from a passing train, and that they may regard it with indifference.

Among numerous notes, one mentions a rather singular circumstance :—Saturday, 2nd December, 1871. Out boating. Shot a Redshank very high up in the air. On picking it up, after it had fallen with a great souse into the water, I found it split open along the breast and all the lower part of the body, from neck to tail, no doubt with the concussion on the surface of the water.

I shall conclude this notice of one of our prettiest shore birds with an anecdote in Mr. Gray's *Birds of the West of Scotland* (p. 292). He says—"During my shore rambles at Dunbar my attention was repeatedly attracted by the movements of a pair of Redshanks, which I observed every morning flying together about the same part of the coast. I noticed that when they alighted anywhere, one remained sitting upon a stone, while the other foraged among the surrounding pools for small marine animals, which it carried to the stone. Seeing these movements so often repeated, I was naturally curious to know why the two kept so constantly together, and why the one always remained still while the other was running about; but, on examining both birds after they were shot, I found, to my great sorrow, that the sitting bird—a female—plump and fat as it was, had only one mandible—the lower one having been, apparently a considerable time before, completely shot away. Thus the faithful mate of the previous summer had ministered to the wants of his unfortunâte companion." Mr. Gray feelingly adds—"I have never shot a Redshank since."

The SPOTTED REDSHANK (*Totanus Fuscus*) is a very rare bird here. The only note I have about it is that on 4th November, 1876, at Ballymacormick Point, I saw a strange bird, among a flock of common Redshanks, that I believe to have been of this species.

As this paper would be incomplete without some

mention of the DUNLIN, or PURRE (*Tringa Variabilis*), I shall briefly notice it.

This bird, called in parts of England the Oxbird, but best known locally as the Sandlark, is one of the smallest of our waders, and is found in enormous numbers on the foreshores of the Lough, where the flocks sometimes number thousands, and are occasionally so dense that from two to three hundred have fallen victims to one discharge from the murderous punt-gun.

These birds also follow the practice of their larger relatives, the Curlews and others, and fly up and down the Lough in the manner described.

On 9th February, 1879, I spent some hours on the shore watching the birds. It was high water at twenty-four minutes past noon, and was an unusually high tide; from which circumstance I inferred that the wading birds would not begin to come up till between a quarter to three and three o'clock.

At ten minutes to three o'clock, three flights of about two hundred Curlews in all passed Cultra Point. For twenty-five minutes after this no birds appeared; and then thirty or forty more Curlews passed up. These were followed in about a minute by twenty or thirty Redshanks; and these again, in three or four minutes more, by a flock of fully a thousand Redshanks. At half-past three a body of not less than two thousand Dunlins passed, flying very high. From half-past three to four o'clock there passed, in rapid succession, thirty or forty Oyster-catchers; then two flights, each of seventy or eighty more; then forty or fifty more; then twenty or thirty more Oyster-catchers, shortly followed by a great cloud of not less than three thousand Dunlins; and so on till four o'clock, when all the birds seemed to have passed up.

Adding all together, we arrive at about the following

totals, the figures of course being only approximations :— About 350 Curlews, about 300 Oyster-catchers, about 1,000 Redshanks, and between 5,000 and 6,000 Dunlins.

It must be remembered, however, that vast numbers of birds frequent the County Antrim side of the Bay, between Macedon Point and Belfast. These flats are of immense extent, and afford feeding to thousands of the species I have been describing. The flights of these birds, going in direct line from their high-water resorts at the mouth of the Lough to the Whitehouse banks, would not be visible from the County Down shore ; so I think, to arrive at a fair estimate of the birds that passed up on the day my last note referred to, one might at least double the figures just mentioned.

To witness a large flight—or, as it is more correct to call it, a “fling”—of Dunlins on the wing is a sight as curious as it is interesting and beautiful. It is not when they are flying with an apparently settled purpose from one place to another, but when they are flying about hither and thither over the banks, in a “fling” of from a few hundreds up to thousands in the flock, that their wonderful lightness and activity on wing are seen to such advantage as to strike even the most casual observer with admiration. At one moment the spectator sees at a distance a dense dark body moving rapidly along, which a practised eye at once sees is a large flock of Sandlarks. Watch them, and, to your amazement, if they are some distance off, the rapidly-moving dark cloud will suddenly almost, or sometimes entirely, disappear. This is caused by the whole flock simultaneously turning their sides, and the edges only of their wings, to the spectator. Slowly, then, and looking at first like a shadow, the birds reappear ; the flock comes into full view as at first, and one is wondering what the next change may be, when, instantaneously, every bird in

the whole flight turning its white under-surface towards the spectator almost dazzles him with a momentary flash of bright silvery whiteness ; the appearance of the flock under this aspect having been most aptly compared to "a shower of new shillings." These graceful and attractive evolutions are often repeated, each change being a surprise ; for owing to the constantly varying shape of the flock, which one moment may be in a long-drawn-out line, and perhaps the next in a round ball, no two of the movements are exactly alike. The flock, if large, often breaks up, but only to shortly reunite again.

Flocks of Dunlins may not unfrequently be seen flying inland over Holywood, seeking, no doubt, the comparative quiet and retirement of Strangford Lough. I have frequently observed these flights : they consist of two or three hundred up to very large numbers, and seem to take place indifferently at various times of the tide. On 22nd January, and again on 29th January, 1879, bodies of three to four hundred so flew over ; on the first-named day their flight took place at about half tide, on the second at about low water.

The most curious note I have on the subject is the following :—8th March, 1875 ; high water 11.10 a.m. At about twenty minutes before eight this morning—that is, about two hours and a-half flood, I saw a large flock of Dunlins flying away from our lough over Holywood towards Strangford, as they sometimes do. I have seen them start on this journey often, particularly in spring. This time, however, I was struck by the wonderful size of the flock, which, as the more remote birds, at first invisible in the distance, gradually came into view, seemed endless. The flock was passing from beyond, and about the height of, the top of Holywood Church spire. The head of the column bent towards my house, and was over it and

out of sight from my point of view in a front window before the other end of the flock was past the church spire, a distance of about three hundred and fifty to four hundred yards. Making a rough calculation as to its density, I do not think this immense flock could have contained less than ten to twelve thousand individuals.

I never observed these birds on a return journey from Strangford to Belfast Lough till 24th February, when, a few minutes before six in the evening, I saw a body of about 300 so returning, flying over Holywood. It was low water at the time.

Again, on 10th March, 1879; high water 0.42. At 5.45 p.m., saw four bodies of Sandlarks flying in a line, but in broken detached groups, perhaps 400 to 500 birds in all, high in air, down over Holywood Church spire to Belfast Lough. It was dead low water at the time.

On their return journey from Strangford to Belfast Lough, flights of these birds not unfrequently pass down over the Belmont and Sydenham districts, as I have been informed by Mr. Frederick Thompson and my brother William. The hills and country dividing the line of the birds' flight between the two loughs here are lower than the line passing over Holywood.

A few of these birds breed in Ireland, but by far the larger number of our winter Dunlins are migratory.

Another very pretty little shore bird, the RING DOTTEREL, or RINGED PLOVER (*Charadrius Hiaticula*), is found on the banks and shores of the Lough in limited numbers, often in company with Dunlins, which it resembles in habits. It formerly bred on the Kinnegar, Holywood.

I must dismiss most of the other shore birds with a mere mention of their names. The Godwits, Knot, Greenshank, Grey and Golden Plover, and others, are to be found here; but I have no notes of them worth repeating.

The Grey Phalarope (*Phalaropus Lobatus*) I have seen but once.

That very interesting bird, the TURNSTONE (*Streptilas Interpres*), I have no notes of myself; but on 15th August, 1876, Mr. A. H. Coates shot one at Ballymacormick Point.

They are now but rarely met with here, and have evidently become much less common than in Mr. Thompson's time, who mentions having seen more than a dozen together at Ballyholme Bay.

These birds, as their name denotes, turn over stones, and other objects lying on the beach, to get at the small crustaceans, and such creatures as harbour beneath them, on which the birds feed.

Mr. Thomas Edward, whose life has lately been so pleasingly written by Dr. Smiles, gave a most interesting description of the operations of two Turnstones, which he watched endeavouring, but in vain, to turn over a large dead fish which was lying on the sea-shore near Banff. They scraped the sand away from behind the fish, and then, again unsuccessfully, endeavoured to turn it over, when the two were joined by another of their own species, who seemed to take in the situation, and at once lent his assistance; when the united efforts of the three at length sufficed to accomplish their object.

I saw a COOT (*Fulica Atra*) in the sea near Groomsport on 19th August, 1878—an unusual thing hereabouts, although they are common on some of the tidal rivers in England. It was shot the next day, and brought to me by a Bangor boatman, young Jack M'Mahon. Neither he nor any of the Bangor men knew it. Coots are abundant on a large dam lying about a mile or so inland from Ballyholme Bay, not far from Groomsport. They are also very abundant on the lake in Clondeboy demesne, where they

were in a very pitiable condition during the severe frosts of 1878-79. Some of them, sitting on the surface of the ice after a little rain or thaw, had their feet frozen fast to it on the frost returning, and so perished miserably. All that were discovered in time were rescued, but some were not found till they were dead.

Having mentioned the lake in Clandeboye demesne, I wish to place on record here the fact of having seen there twice, on 21st and again on 25th February, 1875, a very rare bird, the Green Sandpiper (*Totanus Ochropus*.)

Snipes and Woodcocks, although not regular shore birds, are driven to the seaside in severe weather, such as we had early in 1879. My friend Mr. F. S. Herdman mentioned to me a curious circumstance about them. During the very severe weather of the winter of 1878-79, these birds were driven in large numbers from the mountains to the shore, in the neighbourhood of Ballintoy, County Antrim. There is an extensive rabbit warren there; and these rabbits are regularly trapped for the market. The warrener sets his trap at the mouth of a burrow, and spreads a little fresh sand over the trap to conceal it. When the surface of the ground was frozen so hard that the Snipes and Woodcocks could not probe into it with their bills, they thrust them into the fresh and unfrozen sand concealing the traps, and many of them were thus caught.

CETACEA OF BELFAST LOUGH.

CHAPTER XIII.

WHALES, PORPOISES, DOLPHINS, ETC.

. . . . In bulk as huge
. . . . as that sea beast
Leviathan, which God of all His works
Created hugest that swim the ocean stream.

MILTON'S *Paradise Lost*, Book I.

THE creatures above named, composing the order of the Cetacea, are true Mammals. They are warm-blooded, and breathe by means of lungs, and not by gills, as the cold-blooded fishes do. They bring forth their young alive, and suckle them, as do the Quadrupeds.

Owing to the remoteness and inaccessible character of their principal habitats, and the comparatively few instances where fresh examples come under scientific examination, a good deal of uncertainty and obscurity still exist about this group of animals; while their value to man, the vast size and prodigious strength of some, and the carnivorous habits and fierce characteristics of others, invest the whole group with unusual interest.

The order is generally divided into two sub-orders, viz., those that have whalebone, and those that have teeth.

These are further sub-divided; the former into three genera and seven species, and the latter into ten genera and fifteen species, recorded as British. Many of these are extremely rare; but with these rarities we have at present nothing to do.

Of the Cetacea that visit us regularly, the PORPOISE (*Phocaena Communis*) is the commonest; and examples of it may be seen in the Lough almost any day from about midsummer until quite late in the autumn, with occasional appearances before and after these periods. These creatures are comparatively rarely seen far up the Lough—more generally in the deeper and clearer water lying outside of an imaginary line drawn from Rockport (Co. Down) to Carrickfergus; or even farther out than that, say from Greypoint to Kilroot Point. They are often seen in pairs; and their appearance, as they come frequently to the surface to breathe, showing their heads first and then the ridge of their backs above water, is well known.

Seen thus, the Porpoise is a slow, heavy-looking creature, apparently sluggish in the extreme, and conveys a very erroneous impression of its activity, and the amazing rapidity with which it can, at will, propel itself through the water.

Crossing over to Scotland in the day boat on the 15th June, 1871, when the steamer was going full speed, about mid-channel I observed a few Porpoises alongside. They seemed, as if in sport, to begin racing with the steamer and with one another, frequently crossing the ship's bows, and going with apparent ease at more than double the rate of the steamer. Compared with the speed of the vessel, that of the Porpoises could hardly have been less than 25 to 30 miles an hour.

On the 17th August, 1872, out sailing in the yacht "Hesperus," about a couple of miles outside of the Cope-land Islands in the Channel, I saw a shoal, commonly called a "school," of Porpoises. The school, which was from a quarter to half-a-mile distant from the yacht, was estimated at from 80 to 100 individuals; and they appeared to be

playing about with all sorts of gambols on the surface of the water. Many of them often leaped completely out of the water, returning to it with a great splash and noise.

On the 30th July, 1876, coming down the Sound of Kilbrannan, between the west side of the Island of Arran and the Cantyre Peninsula, in the S.S. "Galvanic," I had another excellent opportunity of watching some Porpoises racing with the steamer. They went at such a truly tremendous rate, that there was a perceptible interval between their passage through the water and the divided waters closing again behind their rapid course! The space in the water could be distinctly seen.

Of Porpoises seen at unusual times and places, I have noted that on the 7th of January, 1871, while driving along the coast road between Larne and Glenarm, and on round the Antrim coast as far as Red Bay, with Mr. J. W. Valentine, we saw three small shoals of Porpoises working south. The largest shoal had seven or eight individuals in it; the smallest three or four.

On 25th March, 1871, I saw two Porpoises as far up the Lough as Holywood lighthouse, which is rather unusual. There had been a strong north-easterly gale in the Channel, and a heavy ground swell was still coming in, which made the water so muddy that I think the creatures must have lost their way.

On 1st April, 1880, I saw a small Porpoise not more than 150 yards from the shore near Cultra quay.

I have on different occasions seen Porpoises, which had become entangled in the herring nets, brought into Scarborough. Here (Belfast Lough) they are seldom captured. I have often tried to catch them, but always unsuccessfully. A young one was taken near Carrickfergus in the summer of 1876.

I communicated the following note to the *Field* at the time the incident mentioned in it occurred :—" Saturday, July 18, 1868, I was ground-fishing, along with Mr. Mulholland and my brother-in-law, Mr. W. E. Praeger, at the mouth of Belfast Lough, beside the buoy of the Briggs, about three or four miles from the Copeland Islands. There being a strong tide running at the place, Mr. Mulholland put out a fleet line for Lythe, baited with a strip of the skin of a grey gurnard. He had caught one, and put out the line again. We were just settling down after the excitement of catching, gaffing, and "quieting" two large Conger Eels, when we saw a Porpoise about fifteen or twenty fathoms astern of us. Mr. Mulholland, as soon as he had settled with his Conger, tried the fleet line, and, finding a fish on it, proceeded to haul in, when the Porpoise, perceiving the fish on his line, made a dash at it, and must have caught it, as Mr. M. felt a tremendous weight; but the line being free again in a moment, Mr. M. continued pulling in, and found the fish still on. Another moment showed the Porpoise in hot pursuit. Mr. M. could scarcely pull the line in fast enough—in fact, could not have done so but for giving it occasional jerks when the Porpoise was opening its mouth to catch the fish. All was excitement on board our boat: one seized the gaff, another the tiller (called by the boatman the 'executor,' because it is used for the 'execution'—*i.e.*, knocking on the head—of fractious Congers). At the stern of our boat Mr. M. lifted his Lythe out of the water almost dead, and with its sides bruised from the squeeze it had got, and at the same moment the disappointed Porpoise dived under our boat's stern. I was just able to touch it with the tiller as it went down. The Porpoise was not large—I should think between four and five feet long." The length just mentioned seems to be about their average size.

It seems to be generally supposed that only one species of Whale—that which was formerly called the BOTTLE-NOSED (*Hyperoodon Butzkopf*), but which I find described in the latest (1874) edition of Bell's *British Quadrupeds* as the "COMMON BEAKED WHALE" (*Hyperoodon Rostratus*)—visits this Lough. This supposition is incorrect, although the Bottle-nose is, doubtless, the commonest of the larger Cetacea that visit us.

My first recollection of seeing a Whale here carries me back to the year 1845, when, on Halloweve, a holiday from school, I was taken down to Cultra (Co. Down) to see a Whale which had been captured by the coast-guards there on 29th October. This was a small specimen of the Bottle-nose species, and measured rather over twenty feet in length. A larger individual—supposed to be the mother—was in company, but it escaped.

I have notes, almost every year for the last twelve or fifteen, of seeing Whales in the Lough from July to October; and one of my reasons for saying that I don't believe them all to be of the same species, is because the extreme size that I see mentioned for the Bottle-nose species attaining to is from 25 or 26 up to a maximum of 28 feet; while I have seen Whales in the Lough, frequently and in close proximity, whose length could not be less than 40 to 45 feet, or even more; my estimate being formed by a comparison between the length of the boat and that of the animal.

I find in my notes:—22nd August, 1874. I never saw so many or so large "Hogs" as to-day, some of them over 40 feet long. The Hog, *i.e.*, Herring Hog, is the local name for the Bottle-nosed Whale, and for Whales generally.

Again, on the 29th August, same year, I have noted—Saw only one Hog to-day; it was large, and had a high

and pointed dorsal fin as compared with most of those seen on the last day I was out—distinctly pointing to a different species.

In August, 1869, Mr. Mulholland fired at a Whale which rose near us. The shot struck the animal on the head; whereupon it jumped almost out of the water, and was unmistakably a Bottle-nose of five or six-and-twenty feet.

In the middle of October, 1868, I was out fishing Mackerel; and, having lost the fish, we were making for a cluster, commonly called a "ball" of fry, that we saw the birds working at, when we became aware of the presence of a Bottle-nosed Whale in close proximity. The Whale was a little in advance of us, and swimming very rapidly in the same direction that we were sailing, his dorsal fin, standing up about a foot or more above his great round black back, which showed about 15 or 18 feet long above water, and looked like the bottom of a capsized boat.

The "Hog," as my boatman called him, was not diving and rising in the usual manner, and blowing when he rose; but appeared, as he swam along with astonishing rapidity, to take breath by elevating his head and slightly sinking the hinder part of his body, after which he would immediately resume his horizontal position: his huge bulk was propelled through the water with such velocity that he sent small waves rolling off to either side, and he made a rushing noise that was quite surprising. It became evident that the Bottle-nose himself was heading for the same ball of fry that we were; and it was also evident that he would, despite our efforts to the contrary, get there before us; so I watched his movements with great interest. The birds were so busy working at the fry, that they did not observe the approach of the intruder till he was within a few yards of them, when his upper jaw, with its projecting

snout, appeared above the water as he opened his mouth apparently to swallow the ball of fry at one mouthful, and he then showed more of his body out of the water than he had done before. The direst consternation seemed to seize all the birds at the sight, as those that were on wing at the time immediately "fled screaming far away," and those that were in the water flapped off to either side without apparently thinking of seeking safety in flight till they had put a few yards between themselves and the Bottle-nose; when the gulls and terns took wing, and the divers disappeared beneath the surface, leaving, in far less time than I have taken to describe it, what had been a few seconds before a living mass of birds, without a solitary representative. We followed exactly in the wake of the *Hyperoodon*, and found that he had gone right through the ball of fry, and just seemed to have bitten it in two. Immediately after passing through the ball, the Whale dived, and did not come again to the surface for a long distance.

A Whale attacking a shoal of herrings is thus described in the poem, "Ardglass," already quoted from:—

"But, should the Hog with open mouth assail,
Adown his throat they run as thick as hail:
Now here and there, from side to side he'd pass,
And thus collect them to a solid mass.
Then downward dive, and in the middle rise,
Devour, disperse, and raise them to the skies;
Yet boats and nets he'd shun with cautious care,
And flimsy texture ne'er disturb nor tear."

On only one occasion I have seen the GRAMPUS (*Phocæna Orca*), as it is called in the first (1831), or the KILLER or GRAMPUS (*Orca Gladiator*), as it is called in the second (1874) edition of Bell's *British Quadrupeds*, in the Lough.

In Thompson's *Natural History of Ireland*, vol. iv.,

it is stated that this animal is met with about Rathlin during summer ; it is said to be very mischievous, and not unfrequently to endanger boats. "An observation," Mr. Thompson adds, "indicating that the true Grampus is alluded to." Mr. Thompson described the creature at considerable length ; but has fallen into an error (so far at least as this lough is concerned) by speaking of the "Herring Hog" as being a local name for the Grampus. The so-called "Herring Hog" is the Bottle-nosed Whale, as already stated, a by no means uncommon visitor, or another of the larger Whales, mistaken for the Bottle-nose ; while, on the other hand, the Grampus is quite a rarity. The occasion to which I have alluded was one fine calm day in the summer of 1868, when I was out fishing near the mouth of the Lough. We heard a noise like that of a Whale, or several Porpoises taking breath at once, but could see nothing for some time, although the sound was several times repeated. At length we saw what appeared to be six or eight stout, thick, pointed sticks, of three or four feet long, standing perpendicularly in the water in a straight line abreast of each other, and four or five feet apart, approaching in our direction. On drawing the boatman's attention to this strange-looking sight, he immediately said, "They are Becker dogs ; don't make any noise, or do anything to attract their attention, for sometimes they are very mischievous, and do a deal of harm," thus corroborating Thompson's above-quoted statement. The creatures approached us rapidly, and, after what the boatman had said of their mischievous propensities, we were rather relieved to see them alter their course when about sixty to eighty yards from us, and pass us by at rather more than half that distance, swimming with great rapidity ; but as they made a semi-circular sweep past us, we had plenty of time to watch them, and then saw that

there were seven individuals, of some large-sized and, to us, unknown species of the Cetacea. What appeared to us at first like thick, pointed sticks were nothing else than their dorsal fins projecting high out of the water ; and, indeed, it was entirely the length and shape of these that enabled me to identify the shapes with certainty as being the Grampus. Their backs, which they showed sometimes above water, were shining black. We were greatly interested at this novel sight, and plied the boatman with questions ; but all the information derivable from him was that they were "Becker dogs," seldom seen here, but frequently on the north coast and in Scotland, where they are greatly dreaded by the fishermen, owing to the damage they often occasion to the herring-nets. Any authorities that I have consulted on the subject give the Grampus credit for being very voracious ; and I doubt not his voracity, and pursuing shoals of herrings, often cause him to be entangled in the nets, where his visits are both costly and unwelcome ; but I see no grounds for the personal dread which fishermen seem to have of him, as I find no record of the Grampus having attacked or injured boats, although the general belief is that they do so.

Shortly afterwards, I consulted Bell's and Thompson's books upon the species, and at once identified it. The former author says, in an interesting description, "The truth appears to be that the Grampus is extremely voracious, following the shoals of various species of fish, and devouring great numbers of them ; and, from its great size, and the astonishing rapidity of its course, pursuing and preying even upon the smaller species of Cetacea—for Hunter found a portion of a Porpoise in the stomach of one which he examined. They associate at times in small companies of six or eight, but are less gregarious than most others of the family." Bell says—"The dorsal fin

is very long, being more than one-fifth of the entire length of the animal; it is a little curved backwards; the pectoral fins are broad and oval, and the caudal fin is very broad, being more than one-third the entire length of the animal."

The fullest description of this powerful and voracious creature that I have seen is in a paper read before the Royal Danish Society of Sciences by Professor D. F. Eschricht, a translation of which was issued by the Ray Society to its subscribers for the year 1866.

The Professor gives full details and measurements of one of these animals, the carcase of which a gentleman, when out yachting, had found floating in the Kattegat, and had towed ashore. It was 21 feet 4 inches long, and 13 feet in circumference. The pectoral fins were 3 feet 11 inches long by 3 feet 2½ inches broad; the dorsal fin was 4 feet high, and the tail fin 6 feet 3 inches broad. With such powerful propellers it is no wonder that its course through the water is spoken of as one of "astonishing rapidity." The stomach of this voracious brute contained the remains, in various stages of digestion, of no less than thirteen Seals and thirteen Porpoises of various sizes. It seems that the Killer bites the Seals across in a particular manner; and, when partially digested, their bodies are pushed out of their skins "by the well-known very powerful motions of the walls of the stomach during digestion, through the rent produced at the capture of the animal;" after which the skin, and sometimes the cranium, of the Seal are ejected by the Grampus.

The Killer swims in companies, sometimes attacking large Whales; and, says Tilesius, "in ranks five abreast." Speaking of their appearance in the Sea of Kamtschatka, the same author says—"When they have wounded a Whale, they never lose sight of it during the pursuit, but

follow it everywhere, attacking it from all sides like bull-dogs, and harassing it until it dies or runs ashore."

The late Captain Holböll, a friend of Professor Eschricht, communicated to him the following :—"The Killer attacks also the Greenland Whale. Such an instance was observed at Holsteinsborg, from the boats engaged in whale-fishing. A shoal of Killers, pursuing a large Greenland Whale northwards, passed close by the boats. Some of them had caught hold of its tail and fins with their teeth, while others jumped over it at the blow-holes, seeking to hinder it from breathing, and others again thumped it on the sides. The boats followed to see how the contest would end.

"The Whale directed its course into a bay near Rivotshavn, where, breaking loose, it gave one of its antagonists such a blow directly on its head with the edge of its tail, that he sank to the bottom very slowly, most probably mortally wounded.

"Then the Whale went into the inner part of the bay, where its head struck on the shore, and in this position it became an easy prey to the Greenlanders."

The same gentleman, however, asserts that the Killers, so much feared by the Seals, are themselves afraid of the Walrus. He says—"Some Greenlanders were just going to attack a Walrus at rest, when a shoal of Killers came to attack it from the opposite side, but the Walrus went to meet them, and the whole shoal . . . dispersed immediately in every direction.

"The Greenlanders saw at some distance the largest of the Killers emerging again with the Walrus, by whose teeth it had been transfixed."

An elaborate description of the anatomical peculiarities of these creatures follows, the Professor remarking that—"The Killers must be called carnivorous animals in the strictest sense of the word, and as such . . . form not

only a genus by themselves, but a peculiar group or family among the toothed Whales."

The only other Cetacean that I can speak of with certainty as visiting this Lough is the PILOT WHALE (*Globicephalus Melas*), an example of which, captured near Whiteabbey in December, 1878, was thus described by me in a letter to one of the local papers at the time :—

"SIR,—Interested in the notice in your issue of the 23rd inst. of the capture of a strange creature off Whiteabbey on Sunday last, I was glad to learn that the arrival (as I understand through the kind management of my friend, Mr. J. R. T. Mulholland) had been brought to Belfast for exhibition in the interest of its captors. I lost no time in going to see this strange visitor, where it is very conveniently displayed in Chichester Street, near the corner of Calender Street. At first sight I thought the animal was a true Grampus or Killer (*Phocæna Orca* of Cuvier), being led to this belief by its high dorsal fin; but further examination showed that it is the animal commonly, but incorrectly, called Grampus, but whose more proper designation is the Pilot Whale or Ca-ing Whale, the *Phocæna Melas* or *Globicephalus Melas* of Bell. The specimen under consideration has some points resembling the figures of both these species in the last (1874) edition of Bell's *British Quadrupeds*. Professor Bell admits the difficulty of getting correct figures of these creatures, which, although not very rare, are comparatively seldom brought under the notice of any one competent to describe them until too late. In the present instance nature has aided nature; and, when I first saw the animal on Christmas Day, it was frozen as hard as if it had been modelled in black marble.

"This creature is common in the North of Scotland and elsewhere; it is gregarious, and large herds of them are

sometimes surrounded and driven on shore, producing a rich harvest to their captors, the creatures yielding a considerable quantity of oil. It is recorded that in the year 1845 'two thousand and eighty were taken in the Faroe Islands within six weeks,' and that, on the 22nd September of the same year, 'fifteen hundred and forty were killed in Quendall Bay, Shetland, within two hours, not one escaping.'—Bell, p. 455. Our late distinguished townsman, William Thompson, Esq., has recorded the capture of considerable numbers of them from time to time in Ireland; notably near Cork, in Bantry Bay, and near Wexford; nearer home, in Lough Swilly; and, again, near Dunfanaghy, in Donegal.

"The creature attains a length up to twenty or twenty-five feet; the example now to be seen in Belfast is 10 feet 4 inches long, 5 feet 1 inch in girth, and its tail fin has a width of no less than 2 feet 4 inches."

The detailed measurements of this specimen were—

Length in a straight line, 9 feet 10 inches.

„ along the line of the back, ... 10 „ 4 „

Girth in front of dorsal fin, 5 „ 1 „

Length of flipper along anterior edge, 1 „ 8 „

Breadth of do., 0 „ 6 „

Dorsal fin, perpendicular height

from back, 1 „ 0 „

Do., along anterior convex bend, ... 2 „ 0½ „

Do., „ posterior concave bend, ... 1 „ 5½ „

Caudal fin, wide, 2 „ 4 „

and palmated in shape, notched in the middle. These measurements do not coincide exactly with those of Bell; but there are sufficient points of resemblance to establish the identity of the species beyond a doubt.

On 7th September, 1878, out fishing mackerel, I noted seeing three large "Hogs"—that is, Whales—and estimated

their length at thirty-five to forty feet. I sometimes saw enough of their heads to be certain that they were *not* of the Bottle-nosed species; but more than that I cannot say.

Every now and then the carcasses of large Whales are cast ashore; or, if seen near the land, as the spouting of some species soon attracts attention, they are sometimes pursued by boats and driven ashore.

Early in June, 1879, a large Whale was chased on shore in this way near Moville (Co. Donegal) and killed. It was examined by my relative, Mr. John Anderson of that place, who sent a description of it to *Science-Gossip* for August, 1879. Mr. Anderson described it as a Sibbald's Rorqual. It was about sixty-two feet long, and was sold for £18.

My relative, Lord Justice Fitzgibbon, lately wrote me of a large Whale being picked up dead in the sea near Howth, and brought ashore there. Species not named. The *Graphic* of 10th April, 1880, mentioned a splendid Whale of seventy feet long, and weighing fifty tons, having been lately stranded in the Moray Firth, and brought to Birmingham for exhibition.

Numerous instances might be given of Whales having been cast or driven on shore in various parts of Ireland; but as they add little to our scanty knowledge of the subject, they need not be further referred to.

The DOLPHIN (*Delphinus*) has occurred on the coasts of Ireland, but has not come under my own observation.

This notice of the Cetacea is necessarily very meagre; and I shall feel obliged for any further information that may be furnished me on the subject.

FISH AND FISHING.

CHAPTER XIV.

INTRODUCTORY—THE FISHERIES OF THE UNITED KINGDOM :
THEIR IMPORTANCE—DRIFT, SEINE OR SEAN, AND TRAWL
NETS—THE HULL AND GRIMSBY FLEETS—LINE FISHING—
HAND-LINES AND LONG-LINES OR BULTERS—COD-FISHING—
PECULIARITIES, DISTRIBUTION, AND CLASSIFICATION OF
FISHES.

I cast my line in Largo Bay,
And fishes I caught nine ;
There's three to boil, and three to fry,
And three to bait the line.

Old Song.

IN a place occupying the physical and geographical position of Belfast Lough, it is but natural that Fishes should claim part of the attention of one whose observations commenced as much from a fondness of sport as of science.

Owing to the inaccessible character of their habitat, and the difficulty, even impossibility in most cases, of observing fishes in their own element in a state of nature, their habits cannot be easily observed ; and although many fishes are elegant—some of them even very beautiful—in form and colour, and present objects of the deepest interest to the naturalist, yet in general attractiveness they will always rank behind the beautiful feathered denizens of our gardens and fields, our woods, and the shores and waters of our bay.

For this there are obvious reasons. The nature of the

medium in which fishes live renders it impossible to domesticate them, or to treat them as quadrupeds or birds can be treated; and, even did this insuperable difficulty not exist, their presumably lower intelligence would cause them to be less interesting in that respect. Yet the almost infinite variety they exhibit in form, size, colour, and habit, and the countless myriads in which some species are found, combine to invest fishes with an interest and value that at first sight does not attach to them.

The better to illustrate what an important part our fisheries play in the national economy, I may, before going further, briefly mention some circumstances concerning them.

Apart from fishing, as pursued for amusement, the fishing industry of the United Kingdom may be primarily divided into net fishing and line fishing; and these subdivided into the following:—

Drift-net fishing, which embraces virtually all the Herring fisheries, with an important part, too, of the Mackerel and Pilchard fisheries. When pursuing this method of fishing, the boat sets her nets across the tide. A first-class boat may have from 80 to 130 separate nets, each about 30 yards long, and sometimes as much as eight to ten yards deep. These nets, when being "shot," are joined together, and are kept in a perpendicular position in the water by the head rope being floated by corks, and the foot sometimes sunk by weights. When all the nets are joined together and shot, they are called a "train" of nets; the boat makes fast to the end of the train and rides to it, and her strain or pull upon it keeps the nets stretched. One boat may shoot from a mile to a mile and a quarter of nets, in which the fish are caught by their heads going through the meshes, over the gill covers, and their then not being able to withdraw them.

Seine or sean-net fishing is another method of catching Pilchards, Mackerel, &c., and is practised with extraordinary results when the shoals of fish approach the shore so as to be observed from any adjacent high land, where a man called a "huer" is stationed to direct the operations of the boats by signal. The mesh of the sean is small. One of these nets may be as much as 400 yards long and sixteen to twenty yards deep. The object of these nets is to enclose the shoal of fish, as it were, in a pond, and either land them, net and all, on the beach, or raise them to the surface by "tucking" the net under them, when they can be lifted into the boats. Occasionally as many as 1,000 hogsheads of Pilchards, each hogshead containing 2,500 fish (a total of about two and a-half millions of fish), have been taken at one haul of the sean.

Trawl-net fishing, by which most of the flat fishes, such as Plaice, Brill, and Soles, are captured, is an important branch of sea fishing. It is largely practised on both sides of the Irish Channel; but its more important stations are on the east coast of Great Britain, where an immense fleet of boats is occupied in fishing the German Ocean.

The trawl is a great bag net, the mouth of which is kept open by being stretched on a beam, which, being weighted, is put overboard and sunk to the bottom. The net is then dragged over the ground, as the boat sails slowly along, and it thus picks up such fish as come in its way. Some trawls are so large that they measure fifty feet across the beam. Steamers are sometimes now used to trawl with; as, in the absence of a good breeze to drive her, a trawling smack cannot work. Our local trawlers and trawls do not approach the size mentioned.

Hull may now be regarded as the head-quarters of the North Sea trawling fleet, although it is not more than thirty years since it began to rise into importance in this

respect. In 1845 there were only forty trawlers at the Port of Hull; while in January this year (1880) the fishing fleet there was estimated to have increased to about 500 smacks, nearly all trawlers, of an average of 65 tons, and an average cost of £12 per ton. This represents an aggregate tonnage of 32,500 tons, and a cost of nearly £400,000. Eight steamers are now (early in 1880) building to convey direct to London and Hull from the fishing grounds the fish caught by the smacks. These steamers will cost £4,000 to £5,000 each; and, with the cost of the Hull and Grimsby fleets, would represent an outlay of about three-quarters of a million sterling. Grimsby, lower down the Humber, had, in 1878, upwards of 500 craft of various kinds registered as fishing boats. They had an aggregate tonnage of about 30,000 tons, being an average of about 60 tons for each vessel. Many of these craft, however, would be up to 75 or 80 tons; most of them were trawlers.*

"The number of sea-going trawlers now working on the English coast cannot be less than between 1,700 and 1,800, and of these upwards of 1,300 regularly fish in the North Sea."—*Ency. Brit.*, vol. ix., p. 250.

* That there is no diminution in the energy with which this industry continues to be carried on, is evident from a notice that appeared in the *Eastern Morning News*, a Hull paper, of 27th March, 1880, under the heading of

"RECENTLY FORMED COMPANIES.

"GREAT NORTHERN STEAMSHIP FISHING.—This company proposes to build a fleet of swift screw steamships to be used in the fishing trade. It was registered on the 13th inst., with a capital of £25,600, divided into 128 shares of £200 each.

"HULL STEAM FISHING AND ICE.—Registered 13th inst., with a capital of £30,000, in £25 shares, to build a fleet of steamers to be engaged in the fishing and ice trades."

All the subscribers to both these projected new companies are Hull smack owners.

At an average of six hands to each boat, this would give a total of over 10,000 men and boys engaged in this fishery alone.

The Hull and Grimsby vessels generally fish so far at sea that they cannot land their fish every day. These are therefore generally packed in ice as caught, and the quantity of ice required for this purpose is so large as to give employment to several steamers bringing it from Norway. Other steamers and fast-sailing cutters are employed going out to the fleet, collecting the ice-packed fish, and bringing them ashore for sale and ultimate despatch by railway all over the country; so the amount of employment given, directly as well as indirectly, in a great variety of ways, is very large.

In 1878 there were despatched from Grimsby by rail a total of 59,407 tons weight of fish, or about 190 tons a day, excluding Sundays. The figures will suffice to show the importance of what is only a portion of the North Sea fisheries.

Besides the methods of net fishing named are the various stow-net, stake-net, trammel-net, and other fixed appliances, some of them of much importance in the salmon and other fisheries.

Line fishing may be divided into two classes, viz., long lines, or bulters, and hand lines of different kinds.

Beside net fishing, line fisheries, although important in themselves, suffer in comparison. The North Sea Cod fishery, however, is one that is carried on on a large scale, and with much energy and success. There is a peculiar feature in it not prevalent elsewhere, and this is the use of vessels that have a well, or water chamber, in the middle, into which the fish are put and kept alive till brought to port. When there, the fish are sent to market, if wanted; but if the market be stocked, the live fish are

transferred from the wells in the boats into chests, perforated with holes, moored in the water, and there kept till wanted for the market, which can thus be supplied with perfectly fresh fish as required. "There are about 400 of these chests in use at Grimsby during the height of the Cod season, and as many as from 15,000 to 20,000 live Cod in them at a time."—*Ency. Brit.*, vol. ix., p. 256.

These enormous quantities of Cod are caught on bulters, which are lines with a number of hooks at certain distances apart. The size of hook, length of snood, distance of hooks asunder, as also the total length of the line and number of hooks on it, vary greatly. In the North Sea Cod fishery, of which we have been speaking, a first-class, full-sized smack would "shoot" nearly eight miles of line, with about 4,680 hooks. (*Ibid.*, p. 256; 15 dozen, or 180 lines, each 40 fathoms long, with 26 hooks.) The principal baits used are buckies.

I understand other fish besides Cod are now kept alive in this manner; but am told that all the fish "waste" greatly when in the chests.

In the two great divisions of the animal kingdom, the invertebrate and the vertebrate animals, fishes take the lowest rank in the latter. Their blood is cold. The places of the legs and wings in quadrupeds and birds are taken in most fishes by fins, placed in positions sufficiently corresponding for the comparative anatomist to trace a distinct analogy.

Their breathing is carried on by gills, instead of, as in the Mammalia, by lungs, their blood becoming oxygenised by contact in the gills, and by means of a constant flow of water through them, with the air contained in the water. In most cases the young are produced from eggs; but in some few species they are brought forth alive.

The geographical distribution of fishes is very wide, almost universal; and the temperature of the water in which various species live shows a great range, from the freezing to almost the boiling point.

They are found in most waters, fresh and salt, running as well as still; and, while showing an amazing variety of form, they exhibit, in all positions and localities, wonderful adaptations of form to habit, and of colour to that of the ground which they frequent. Nature, although generous, is not prodigal; and, as an instance of this, and of the adaptation just alluded to, it is stated that fishes inhabiting the rivers in the great Cave of Kentucky and other similar places have no eyes, as such would be of no use to them in the dark recesses of these caverns.

Naturalists are not entirely agreed about the classification of fishes, and different systems have been proposed. Of these, that of Cuvier seems the most generally adopted; and although it is not intended to mention the fishes that may be alluded to in any particular order, I may say that in Baron Cuvier's system, which has been adopted by the late Mr. Yarrell and others, fishes were divided into two classes, the osseous and the cartilaginous—the former with a skeleton of hard bone, and the latter with one of cartilage, more gristly than bony. These two classes are subdivided into nine orders—the osseous into six and the cartilaginous into three.

In the late Mr. Couch's valuable work, published in 1877, he describes two hundred and ninety-four species of British fishes. Of these the great majority are sea fish, never found in fresh water. Some—and of these the Salmon is the best known example—migrate periodically between fresh and salt water. Some Eels seem to live indifferently in either, which has led to the popular

fallacy that when fresh-water Eels enter the sea they grow into Congers; while Flounders often frequent brackish, or almost fresh, water at the mouths of rivers. Of the above mentioned large number of species, only some eighteen or twenty come so frequently under local notice as to be prominently alluded to in an account like the present, while a mere passing mention of some ten or twelve more will exhaust my subject.

Mr. Couch differs from the classification of fishes as laid down by Cuvier; and, for reasons which it is only justice to him to give in his own words, he places the predaceous fishes, the Sharks and their congeners, *first*, and not, as Cuvier does, nearly last in order. Mr. Couch says:—"As regards their proper station in the natural classification of animals, we so far agree with the distinguished Swedish naturalist Linnæus, as to place the family which comprises the Sharks and Rays in the rank which is next below that of reptiles—to which order they are most nearly related in their general structure, vital physiology, and mental instincts—and not in the much inferior station which includes the Lampreys, as is done in the greater part of modern arrangements.

"With the Lampreys this class of fishes possesses nothing in common, except a soft skeleton, that for the most part is without bony fibres, and several openings through which the water passes in the action of breathing, which are agreements too slight and obscure to warrant the conclusion that these families possess any near connection of natural affinity; whereas the differences in other respects, and even in the particulars named, are very wide, as we shall presently see. And therefore, while we suffer the . . . Lampreys to remain at the end of our list, as at the vanishing point of fishes in their transition towards the class of worms, we assert for this tribe of chondroptery-

gious fishes a prominent station at the head of the whole family of fishes."

Professor Owen has remarked that "the predaceous Sharks are the most active and vigorous of fishes. Like the birds of prey, they soar, as it were, in the upper regions of their atmosphere, and . . . they habitually maintain themselves near the surface of the sea by the action of their large and muscular fins;" and then, speaking of the lightness, toughness, and elasticity of the Shark's skeleton, and of other anatomical peculiarities, he adds that:—"To have had their entire skeleton consolidated and loaded with earthy matter would have been an encumbrance altogether at variance with the offices which the Sharks are appointed to fulfil in the economy of the great deep."

"There is no reason," continues Mr. Couch, "why the Lion should occupy the elevated place he does in popular estimation as the king of beasts, except with reference to his power over the weaker inhabitants of the wilderness. . . . But the human mind has shown a disposition to regard the qualities of strength and commanding powers and dispositions as such a mark; and as a beginning, even in this kind of superiority, must be somewhere, and the consent of ages has ascribed it among beasts to the Lion, and with the same conviction or feeling among birds to the Eagle, we are only proceeding in the same direction when we view the Sharks as holding the same relative rank among the families of the ocean.

"They live by the exertion of similar powers with those of their analogies of the land and air, and even in general with more insatiable appetites and energies."

• CHAPTER XV.

FISHING IN BELFAST LOUGH—THE FISHES TAKEN—CERTAIN
SUNKEN WRECKS GOOD SPOTS FOR FISHING—SOME DAYS'
FISHING MENTIONED—THE LYTHE, OR POLLACK—COAL-FISH,
OR STANLOCK—THE SEA BREAM, OR CARP.

The breeze fills my sails, so adieu to the land !
The ensign's unfurled, I've the helm at my hand.
What sport is more pure, what pleasure more sweet,
Than the sail and the breeze when thus kindly they meet.

H. C. FOLKARD.

TO come now to the fishes that one may meet with in the course of a few days' fishing in the Lough, there are some that are only caught when the boat is at anchor, and one is fishing on or near the ground—such as the various flat fishes, Conger Eels, Skates, &c. Other fish occupy a higher stratum in the water, and are captured while the boat is at anchor in a tide-way sufficient to cause lightly-weighted lines to stream out with the current. Among these may be mentioned the SEA BREAM (*Pagellus Centrodontus*), locally called CARP, which, however, are also taken at the bottom; the LYTHE, or POLLACK (*Merlangus Pollachius*); and the COAL-FISH (*Merlangus Carbonarius*), called also the "Pickie," "Blockan," "Glashin," "Stanlock," and "Grey Lord," at different stages of its growth and in different localities. The same fish, the Coal-fish, is the "Seath" of commerce. The two last-named species, the Lythe and Blockan (I use the local names), may also be caught in large numbers at the surface of the water, on fine evenings and in suitable localities, by a boat rowed slowly along, and a

number of rods with short lines, the hooks being baited only with a white feather, spread over the stern in the shape of an open fan.

Lythe are also caught sailing slowly, Mackerel when sailing quickly. The Grey Gurnard, locally called Nowd, or Knowd, is caught sometimes in large numbers, both at anchor and under way.

These are the principal methods of hand-line or rod fishing hereabouts, and some of the kinds of fish captured. So let us begin. The best time for anchor fishing is generally during the first of the flood tide, to take advantage of which one should be on the spot by the time the last of the ebb has run, and the water is "slack"—that is, without any run of tide.

Different sunken wrecks throughout the Lough—the position of which can be found by cross-bearings—have for some years back been good spots for fishing, the reason of which is obvious.

These wrecks, lying at the bottom, are soon grown over with seaweed, and become the resort of many creatures that live in and about the timber and weeds. Small fishes that prey on these creatures, such as the POWER COD (*Morrhua Minuta*) and the POUT (*Morrhua Lusca*), both locally called Braize or Brasier, frequent the wrecks for food and shelter, and these fishes in their turn attract the larger ones that prey on them. Four of these wrecks are well known both to the amateur and professional fishermen; and, as they may all be mentioned, I had better enumerate them and their positions.

The "Shaddock," sunk off Ballymacormick Point.

The "Monteith," sunk about three miles off Bangor Bay.

The "Prude," off Crawfordsburn.

The "Reindeer," about a mile to the N.W. of the "Prude," in the Carrickfergus direction; and

The "City of Lucknow," near Rockport.*

Most of these wrecks have now been down so long that they are broken up, and no longer as good as they were for fishing purposes; but their fragments lying below still afford food and shelter to many fish and other creatures. The ten years from 1869 to 1878, both included, afforded me the best sea fishing that I ever enjoyed; and to give an idea of what may be done in this way, I shall mention a few fishings, taking the following records from my notes:—

19th June.—High water at 6.54 p.m.; moderate whole sail breeze from N. to N.W. Went down to Bangor in the morning, and out in Scott's boat to the "Monteith" (one of the sunken wrecks just named), where we caught, on herring bait, three Ling, three Cod-fish, thirty-six Conger Eels, two Stanlocks, four Skate, and two Pikey-dogs—that is, the Picked or Piked Dog-fish (*Acanthias Vulgaris*). These fish were all caught on ground lines, sunk to the bottom with a leaden weight, and the hooks baited with pieces of herring. Besides these, on float lines, locally called fleet lines—that is, lines which are allowed to stream out behind the anchored boat with the tide in about mid-water, baited with a species of white worm, locally called "lurk"—we caught eight large Lythe and three Nowds.

That was a fair day's fishing in weight and variety, if not in number.

On this occasion the wind and tide were in the same direction, which is a great advantage, as it allows the boat to rid steadily to her anchor, and not foul the lines. When wind and tide thus suit, one boat can fish six or seven lines at the same time. Float lines require closer attention than any other lines in the boat—that is, parti-

* I have laid down on the chart (in the beginning of this volume) the approximate positions of these wrecks.

cularly if the Lythe are on the feed. These fish, and their cousins the Stanlocks, both of which species I have caught in this way up to and over 18 lbs. weight, are sometimes fastidious about their baits, and require very fine tackle; or, as our boatman John Scott pithily expressed it, "they won't jump on anything they can't break," which is so far correct, that I never hooked a Lythe over 8 or 10 lbs. (except at night) that would not have broken my tackle if I had held against him; these fish must all be "played," and tired, before you can land them. They fight very hard at first, but die soft in the end. When in good condition, as those taken here in summer generally are, they are of good form and colour, and look very handsome when made to shear slowly alongside the boat to receive the fatal gaff.

This "gaff" is a strong sharp iron hook, fastened to a stout handle. It is used for lifting into the boat any large fish that the weight of would endanger one's losing, through the snood breaking, if it were attempted to lift them in by it.

When the fish is brought to the surface of the water at the boat's side, the gaff is struck into it, and the victim lifted on board, the action being sometimes accompanied by an invitation to the fish to "come in out of the wet."

Another good, but different kind, of day's fishing was had by Mr. Mulholland and myself on the same spot one 31st Jdy. About half-an-hour after dead low water, at a quarter past ten, we caught our first Lythe with white lurk on a float line. We went on catching Lythe at intervals over the whole flood, but particularly during the first quarter of it. At slack water, on the change of tide, for about half-an-hour before and the same after high water, we caught nothing; but on the first of the ebb we caught three. Our total catch was twenty-one Lythe, weighing

212 lbs., or a trifle over an average of 10 lbs. a fish ; nine Nowds, one Mackerel, and about one hundred Braizes.

One day, shortly after the last mentioned, we caught 171 fish, of twelve different kinds ; among them 136 Mackerel and one Gar-fish (the *Belone Vulgaris* of Cuvier). This fish, locally called Horn Eel, which sometimes appears here along with the Mackerel, is an extraordinary-looking creature, and not common hereabouts. In seven years' fishings, between 1869 and 1879, I have only recorded the capture by myself of three examples. Yet about 1862 or 1863 I recollect catching three of them in one day.

I remember one 28th August Mr. Mulholland and I had an extremely pleasant day's fishing. High water at a quarter-past two, we started for the wreck of the "Prude" at eight in the morning. The tide is later beginning to make here than at the wrecks farther down the Lough, so we fished a few Mackerel on our way out, and, getting to our spot in time for the first of the flood, we speedily caught fifty-four fine Sea Bream, locally called Carp or "Carf" (the latter a manifest corruption). These fish give fine sport on the float lines, and, when well on the feed, keep one very busy ; but they don't "work" long at a time. For a while they seem to be so abundant and so eager that the float line is hardly stretched till one is at it ; when all of a sudden they stop—"go down," as the fishermen say—and one may then cease trying for them, for not another nibble will you get till the next change of tide. These fish seem very uncertain ; one often can't tell where to find them ; and if on the spot at the proper time, and the Carp are not taking, they should be tried for at all depths till found. They are often caught on ground lines ; but, as they are a tender-mouthed fish and difficult to land, many are lost if you have not a landing-net to lift them into the boat with.

It is a singular thing that it seems to have been only lately that the Carp (Sea Bream) became common in the waters of this bay. My own first acquaintance with the fish dates back to the year 1857, when I was introduced to them off Annalong, Co. Down, by Mr. Henry Atkinson. There they have long been abundant, and are called "Carp." They are also abundant on the north coast, where, about the Giant's Causeway, they are called "Braize."

The late William Thompson, Esq., in the fourth volume of his *Natural History of Ireland*, says this species is "common around the coast ;" but he does not speak of it as being so in this bay, nor does he record its capture in Belfast Lough at all. I don't think it can have been here in Thompson's time ; and it is only since 1867 or 1868 that I can speak with any degree of certainty of their being common in the Bay. Now, they are so abundant, that in four years' fishing (1869, '70, '74, and '78) I caught, or was at the catching of, 609 of them.

Mr. Couch had evidently a closer personal knowledge of the Sea Bream than any other naturalist whose works I have had access to. He says it "is among our commonest, and at times most abundant fishes." The young are called "chads" in the south of England. Mr. Couch continues : "This fish seems to be deeply sensible to cold ; and, in consequence, in ordinarily severe winters it passes into deep water beyond the reach of the fishermen. But it soon returns on the restoration of a milder temperature, sometimes in considerable numbers. They sometimes assemble in enormous multitudes . . . and have been observed, contrary to their usual habits, to rise to the surface and pursue their course, as if engaged in some important business of migration." The Pilchard fishers have been sometimes led into mistakes by seeing these great bodies

of fish, and captured the "schull" of Bream, thinking they were the more valuable Pilchard. On one occasion 20,000, and on another, as Mr. Couch has been informed, 60,000, were caught in a sean at one time.

The Bream fetches only a low price in the market ; and when abundant, Mr. Couch has known it sold for two shillings and sixpence the hundredweight. This unworthy price, however, is not a criterion of its true value for the table ; for it is to be by no means disregarded as food.

Of catching Carp on an ebb tide I have various records, among which the following is the most noteworthy :—27th August ; high water 11.26 p.m. Strong southerly wind, and raining fearfully all the time. Went to the "Monteith" and caught there, on the ebb, in about an hour and-a-half, from half-past two till about four o'clock, fifty-three Carp, one HAKE (*Merlucius Vulgaris*), one Whiting, seven or eight Nowds, and two Lythe. This was the only Hake I ever saw caught. On this occasion, observe, we fished with a southerly wind on the ebb tide, which answers very well.

I have referred to the Carp, or more correctly the Sea Bream, at this length, as it is a fish that gives the amateur fisherman good sport, and is interesting from its having so comparatively recently become well known in the waters of Belfast Bay. As to the fishing for them, I may add that if, as often happens, they are shy, the line is better attached to a "tell-tale" than held in any except a very experienced hand. The tell-tale is a rod, or piece of cane or whalebone, about a foot and a-half or so long, stuck upright into the gunwale of the boat. If left alone, the fish frequently hook themselves, and this can be at once observed by the tell-tale bending down by reason of the fish pulling upon it.

Float-line fishing for Lythe and Stanlocks, or for Carp,

is the finest sea-fishing that the Lough affords. Some prefer Mackerel-fishing, which is very pleasant, and of which more anon ; but it lacks the excitement and variety attendant upon catching the large Lythe and the lively, plucky Carp. The latter fish, it should not be forgotten, requires careful handling when unhooking it, as the sharp spinous rays of its dorsal fin inflict painful wounds.

CHAPTER XVI.

THE MACKEREL—IRISH FISHERIES: THEIR GRADUAL DECLINE—
THE PRESENT KINSALE MACKEREL FISHERY—GURNARDS—
DOG-FISHES, SHARKS, AND SKATES—A SCOTCH STORY—THE
FAMILY OF THE FLAT FISHES—A MANX LEGEND—PLAICE,
SOLES, TURBOT, ETC.

Our boat is jumping in the tide—quick, let her hawser slip;
Though but a tiny thing, she'll live beside a giant ship.

She knows she bears a soul that dares and loves the dark rough sea:
More sail! I cry; let, let her fly! this is the hour for me.

ELIZA COOK.

FISHING for MACKEREL (*Scomber Scombrus*) is very pleasant when pursued with the concurrent advantages of a fine day, a good boat and good company, a good breeze, and plenty of fish. We have taken on one occasion 225, on another 354, in each case in part of a day; and, although monotonous, it is pleasant to feel that you are doing something. If not catching fish you are sailing; and as, when caught, Mackerel are valuable as well as beautiful, their arrival is always looked for with much interest by all fishermen, whether amateur or professional.

Mackerel were formerly very highly prized as a delicacy; and the first arrivals of the fish in the London market sold at enormous prices. "On 14th May, 1807, the first Brighton boat-load of Mackerel was sold at Billingsgate for forty guineas per hundred, seven shillings each (reckoning six score to a hundred), the highest price ever known at that market. The next boat that came in reduced their value to thirteen guineas per hundred."*

Again, Mackerel were so plentiful at Dover in 1808, that they were sold sixty for a shilling.* So the long

* Daniel's *Rural Sports* (London, 1813).

hundred that sold in 1807 for £42 was sold the next year for two shillings ; and it is on record that this number has been sold as low as sixpence.*

The fishings with both drift and sean nets have been already described. The former is a well-known method.

I just once saw a sean used myself. Happening to be on the pier at the harbour of Bridport, in Dorsetshire, in company with my friend Mr. J. P. Suttill, about the middle of September, 1867, I saw such vast shoals of small-sized Mackerel that their numbers passed all computation. The great shoals of fish, in which the individuals were swimming so close together as to be almost touching one another, looked like the reflections of immense dark clouds moving slowly along. A sean was spread from the shore by means of a boat, and a portion only of one of the shoals was enclosed and brought up on the beach, where the fishermen estimated the take at 2,000. Such hauls were made many times in each day.

Mackerel are very perishable fish ; and this was so well known, and the fish reckoned of such importance, that, by a statute passed in 1698, they were allowed to be cried through the streets of London on Sundays.

Ireland, with her numerous bays and promontories, has a coast-line of great extent ; and it is a matter not only of regret, but of serious national importance, that the valuable fisheries which she undoubtedly possesses are not only not more fully developed, but are actually declining.

This subject was treated of at length in a letter from the Rev. James Stephens, P.P. of Killybegs (Co. Donegal),

* From a Belfast paper of 22nd May, 1880; I cut the following, showing that enormous takes of Mackerel still occur :—"The *Dorset County Chronicle* says that many thousands of large Mackerel are now perishing on the beach at Abbotsbury, the catch being so large that horses cannot be found to carry them to a station."

to the editor of the *Freeman's Journal*, which appeared in that paper on 12th January, 1880. In it he stated that in 1846, before the famine, 113,000 men and boys and 20,000 boats were employed in the Irish coast fisheries; and he traces a melancholy but steady decline, till the 20,000 boats had dwindled down to 7,000, and the number of hands employed from 113,000 to 27,000.

The *Encyclopædia Britannica* states that in 1876 there were 5,965 boats and 23,963 men employed in the Irish coast fisheries.

Of those few Irish sea fisheries that do seem to be energetically worked, the Mackerel fishery off Kinsale is one of the most important. The fishing here generally begins late in February or early in March, and continues for three or four months; but the most remunerative time for the fishermen is generally early in the season, better prices being then obtained, as well as frequent large takes. I learn that, in the year 1876, above four hundred and twenty boats and vessels were employed at this fishery: some of these were Scotch boats; among them, too, were over sixty large French luggers. These latter salted their fish when caught, and returned to port as soon as they had made up a full cargo, but only to come back to the fishing ground again as soon as the cargo was landed.

The takes of the British and Irish boats were landed as quickly as possible, packed in ice, and forwarded fresh to market. Seven or eight steamers and some ten or twelve cutters were engaged in this trade. In the year just named, it is officially reported that nearly 140,000 boxes of Mackerel, each box containing a long hundred, or six score of fish, were landed. This would make a total take of about seventeen millions of Mackerel, besides a large quantity taken by the French boats, and carried away direct without being landed.

Father Stephens states the value of this fishery to be £300,000; and says that the nets shot nightly reach a total length of 500 miles.

In our more Northern waters the Mackerel appear later, and rarely in anything approaching the numbers that visit the south coasts. They travel northwards slowly; and, from their first arrival off Kinsale till they appear in Belfast Lough, four or five months may elapse. They are seldom taken here till July; and their presence in the Bay is not unfrequently first detected by a few being taken in the herring nets of the Carrickfergus fishermen. I have sometimes heard of Mackerel being abundant off Newcastle (Co. Down) a month or six weeks before any appeared in Belfast Lough. Some years the shoal of fish appear either not to get our length, or else to pass the entrance of the Lough without entering it, as it occasionally but rarely happens that not more than a few stragglers are obtained in a whole season.

The GREY GURNARD (*Trigla Gurnardus*), locally called Nowd, or Knowd, is sometimes very abundant here. It may be caught both streaming, as for Mackerel, but not going so fast, and also ground-fishing. This fish gives good sport. In the three years 1876, '77, and '78 I caught 894 of them. They generally come in before the Mackerel, but not in quantity till towards the middle of July, when, if the fry come in, they come too. Nowds then become very abundant, and continue so as long as the fry remain. These fish appear not to frequent the wrecks, or any particular spots, but roam at large over the floor of the sea in search of food. They take a bait well, and, when once hooked, are seldom lost; so that, when tolerably abundant and well on the feed, one may often catch two at a time. These fish are sometimes found in enormous numbers in the Channel; but, as they are of

almost no value for the market, they never become objects of regular pursuit for sale by fishermen in the way that Herrings or Mackerel do. It is no uncommon thing, when Nowds are abundant, if you catch one, to see three or four others follow it up to the top of the water. They emit a curious grunting sound after they have been captured. Their heads and fins are armed with formidable spines, so that one must handle them very carefully, when taking them off the hook, to avoid getting the hands unpleasantly wounded. They have no loose scales; after capture, a kind of slime exudes plentifully from the skin, which prevents the fish taking salt.

The covering of these fish is so tough that, to render them fit for the table, they must be skinned, an operation not difficult if one knows how to do it, and I'll try to describe its performance. Lay the fish flat on a table or board, the back-fin uppermost, the tail towards your right, and the head towards your left hand. Enter a knife just above the tail fin, and cut along the back towards your left hand, separating thus the whole of the dorsal fin from the rest of the fish; and when you come to the back of the head, cut straight down through the back-bone, immediately behind the head. Next raise—or "start," as we say—the corners of the skin a little on each shoulder, where the first cut that you made ended; and then, laying the fish flat on its back, with its head to your right, grasp the head firmly with your left hand, hooking the left forefinger into the hollow behind the head, where the back-bone was severed. Now hold the fish steadily down on the board by a sufficient pressure of the knife in your right hand against the back-bone; and, with a steady, strong pull of your left, the head, skin, and entrails will all come away together, leaving the fish clean and ready for the frying-pan. I find it materially assists this operation to have a

napkin, or something of that kind, to hold the fish with. It saves one from a good many unpleasant stabs, until you get your hand well in.

The RED GURNARD (*Trigla Cuculus*) is also taken here, and sometimes of considerable size, but in comparatively limited numbers.

Of the Dog-fishes, Sharks, and Rays that infest the Lough, the PIKED DOG-FISH, or "Pikey Dogs," as we call them (*Acanthias Vulgaris*), are the commonest. When abundant, they are a great nuisance to fishermen, taking the baits, and, except the hooks be tied on gimp, often biting them off with impunity, their sharp teeth cutting through any ordinary snood with ease. These fish are sometimes so abundant, that on one occasion, in 1867, we caught 118 of them in the course of an afternoon. These we afterwards had to throw overboard on our way from the fishing-ground into Bangor. In other places they are even more numerous.

Many years ago—I think in 1857 or '58—I was one of a party that caught one day, off Annalong (Co. Down), besides a large quantity of other fish, a small cart-load of Dog-fish, principally of the piked species. These were all taken home, and their livers extracted to boil down into what I understand is often sold as cod liver oil. Some were salted and dried for winter use, and the rest boiled and given to the pigs, which animals fed on them readily, the soft bones of these fish allowing of their being eaten without inconvenience.

These Dog-fish are armed with two formidable spines (whence they take their specific name), one in front of each dorsal fin; and their bodies, with the cartilaginous skeletons, are so flexible that, with these pikes, they can inflict a nasty wound. Having recently found that these Dog-fish pikes make excellent tooth-picks, I now gene-

rally cut them out of the fish, and keep them for this purpose.

These fish bring forth their young alive ; and the young Dog-fish, just after exclusion from the parent's body, which sometimes occurs in the boat, are very pretty and perfectly-formed little creatures, swimming away readily if let off.

These fish seem very insensible to pain. I once caught a Dog-fish on a piece of his own skin, which, in striking suddenly, I had pulled off him ; but he followed the line to the surface of the water (as these fish often do), when I, perceiving him, let the hooks remain not more than two or three inches submerged, when I had an opportunity of seeing how the Dog-fish, in common with all the shark tribe, turn nearly on their back to bite, the mouth being placed underneath. When this fish was on the "Cinderella's" deck, I perceived a spot on his back, about the size of a shilling, which was bleeding, and, after extracting the hook from his mouth, I found the corresponding piece of his own skin on it, so that he had actually been caught on a piece of himself!

The LARGE SPOTTED DOG-FISH (*Squalus Catulus*) is comparatively rare here.

After the Piked Dog-fish, the next commonest of the family is the SMALL SPOTTED DOG-FISH (*Squalus Canicula*), but it varies greatly in numbers here in different seasons. I lately mentioned catching 118 Pikey Dogs in one day ; that was in 1867. In 1874, in twelve fishings, in May, June, July, and August, I did not catch even one Piked Dog-fish, and only one Small Spotted Dog ; while in the same twelve fishings I caught 301 Nowds. In 1876, in twelve fishings in the same months, there were caught 31 Pikeys, 4 Spotted Dogs, and 441 Nowds. In 1877, in fifteen fishings, 10 Pikeys, no Spotted, and 232 Nowds.

In 1878, in fifteen fishings, 28 Pikeys, 2 Spotted, and 221 Nowds. These figures will give a correct idea of the present relative and varying numbers of these species of Dog-fish, and contrast curiously with Mr. Thompson's statement regarding the Small Spotted Dog-fish, that "this is by far the commonest species of the *Squalidæ* on the N.E. coast," which is now certainly no longer the case, so far at least as Belfast Lough is concerned. In taking a Spotted Dog-fish off the hook, you must be careful not to let the fish hurt you. They twist their bodies up towards the hands, and with their hard covering, which is quite rasp-like against the grain, rub the skin off any part of the hands that they touch. Other members of this family are the SMOOTH HOUND (*Squalus Mustelus*) and the TOPE (*Squalus Galeus*), both of which local fishermen simply call Sharks. We once caught a BLUE SHARK (*Squalus Glaucus*) between five and six feet long; and on one occasion—16th October, 1869—Mr. Mulholland and Mr. T. R. Walkington, of our party, saw distinctly a FOX SHARK or THRESHER (*Squalus Vulpes*), the length of which they estimated at twelve to fifteen feet, jump out of the water, and light down on its surface again with a tremendous splash. I did not see it; for indeed I was steering for the lives of the whole party at the time, we having been caught out in a severe October gale. The fish was, however, observed from the shore by one of the Messrs. Neill of Bangor and by a coast-guard, both of whom saw it sufficiently distinctly to be quite sure that it was a Thresher.

The BASKING SHARK (*Squalus Maximus*) is mentioned later. (See p. 248 and following.)

Having got among the Dog-fishes and Sharks, their relatives the Skates and Rays had better next be disposed of. Of these several species occur here, the COMMON

SKATE (*Batis Vulgaris*) being the most frequent. I dislike these creatures so much that I never fish for them specially. The largest I ever saw was caught off Annalong (Co. Down), and measured, including the tail, about seven feet long and five feet broad. It was estimated by the fishermen to be about 3 cwt. I have seen very large Skates caught in Belfast Lough too; but have, however, not met with any of the size mentioned by Dean Ramsay. He speaks of a gentleman who had returned from India telling wonderful stories of the size of some of the tigers he had met with, and assured the company that he had himself shot one considerably above forty feet long! A Scottish gentleman present said that no doubt these were very remarkable tigers; but that he could assure the gentleman there were, in that northern part of the country, some wonderful animals; and, as an example, he mentioned a Skate-fish, captured off Thurso, which exceeded half-an-acre in extent. The Englishman saw that this was intended as a sarcasm against him; and, considering himself insulted, left the room in indignation, and sent a friend to demand satisfaction. The narrator of the Skate story coolly replied, "Weel, sir, gin yer freend will tak' a few feet aff the length o' his tiger, we'll see what can be dune about the breadth o' the Skate."

The LONG-NOSED SKATE, locally known as the Sand-eel Skate* (*Raia Mucronata*), is a much rarer species. It sometimes attains a large size, and is difficult to capture, its strength and activity exceeding that of the common species.

* I have not seen an example of this so-called Sand-eel Skate for some time; and am unable to say positively whether it is the species named, or the nearly-allied Sharp-nosed Ray or Burton Skate (*Raia Oxyrhynchus*). Possibly the familiar local name is given to both species.

The THORNBACK RAY (*Raia Clavata*) is not uncommon here. In my rough fishing notes I have not recorded the different species captured, but put down all this family under the general name of Skates. By avoiding their favourite resorts one may keep pretty clear of these repulsive-looking creatures; but if any novices like a pull at something heavy, they may have it almost any time if they resort to the so-called "Skate Bank," and take strong tackle with them. The Skates are, however, in many respects curious and interesting. The reproduction of the species takes place, as in most fishes, by eggs; but among the Skates, and some of the Sharks and Dog-fishes, these eggs are deposited singly, enclosed in separate bags, commonly called sea purses, or witches' purses. These are composed of a tough horny substance; those of the Dog-fish are of a long shape, and are found of various shades, from a clear amber to a rather darkish brown; while those of the Skates are more nearly square, and of a black colour. Both kinds are familiar to sea-side residents, as being not unfrequently found thrown up on the beach. These purses, when fresh, are found to contain a yolk-like substance, which is evidently intended for the sustenance of the enclosed young fish till it is ready for hatching out. The bodies of some and the tails of all the Skates are formidably armed with spines and spikes; they have very powerful jaws, and a peculiar arrangement of fine but strong teeth, placed so close together as to form a set of continuous plates in each jaw, and extending externally over what, for want of a better name, I must call the lips. These can turn inwards, and subject any object between them to a powerful combined pressing and grinding action, the object of which is readily understood when we remember that the Skate is a slow fish, living mostly on the bottom, and the bulk of its food consists of crabs,

mollusca, &c., the shells of which it must crush to get at the contained animal.

Although the Skates seem to have a life of tolerable freedom from attack by their fellow-inhabitants of the deep, yet they sometimes fall victims to the wiles of the Angler, or Sea Devil. They doubtless swim into the extended jaws of these monsters, which are still more formidable than themselves.

I lately carefully examined two Skates which my brother David brought up from Bangor for me.

This examination had reference to an idea that possibly the Skates use the holes called the "temporal orifices," which are in the head immediately behind the eyes, not only "to give passage to a full supply of water to the gills for the purpose of breathing" (Couch, vol. i, p. 78), but also for the purpose of looking through.

The mouth and nostrils of the Skate are on what is, when the fish is in its normal position, the lower side of the head, and behind the projecting snout; while the eyes are on the opposite side, or top of the head.

The Skate, seeking its food on the ground, must be largely aided by its sense of smell, its nostrils preceding the mouth in the passage of the fish over the ground; but the eyes, directed as they are sideways and upwards, would be of little use in aiding it in its search for food, if they cannot be applied in the peculiar manner alluded to. In the specimens examined, one of which was 27 inches long and 17 inches broad, and the other 41 inches long and 27 inches broad, including the length of the tails, which measured respectively 12 inches and 17 inches, the temporal orifices opened from the back of the head through into the mouth. These passages were sufficiently wide to admit the free insertion of the little finger in the smaller, and the forefinger in the larger specimen.

When the mouth was open, one could look up through it and the holes, or down through the holes and through the mouth on to the ground.

The larger Skate measured about four inches from point of snout to nostril, six inches from point of snout to mouth, six inches from point of snout to centre of eye, six and a-half inches from point of snout to centre of temporal orifice behind eye.

On inquiry, I find that some fishermen assert that the Skate can direct its eyes backwards and downwards in such a manner as to see through these orifices and through the mouth on to the ground below. The orifices can be closed from their anterior side backwards at pleasure. The margin of that movable portion of the membrane that is used to close them is strengthened by being, as it were, stretched on a small semi-circular frame. There is a groove at the back part of the orifice for the frame of the membrane to fit into, so that the closing of the passage that way is complete.

No doubt these orifices are used for the purpose of respiration ; but I believed they served the other purpose, that of looking through also, until lately assured by Professor Cunningham that it is simply impossible for them to be so used ; and I suppose he must be right.

Most resembling the Skates in external form, but unlike them in every other respect except for their living mostly on the ground, comes the family of the *Pleuronectidæ*, or Flat Fishes, embracing the Turbot, Plaice, Sole, and other valuable species.

This family throughout shows in its construction and habits one of the most extraordinary departures from usual forms that is to be found in nature.

The flat fishes all swim, not as the Skates and other

fish do, on their front, with the back uppermost, but *on one side*. Both eyes are on one side of the head ; and the bodies are greatly compressed. The dorsal fin margins what looks at first sight like one side of the fish, but which is in reality the line of the back.

Some of the family, like the Plaice and Sole, swim on the left side, looking from tail to head, while others, like the Turbot and Brill, swim on the right side.

Lest my meaning be not quite clear, I repeat that what to a casual observer is the front or belly of a Plaice or Sole—that is, the white under-surface—is really the *left* side ; and what looks like the back, from its always being uppermost, and from its dark colour, is really the *right* side of the fish. Exactly the reverse is the case with the Turbot and Brill, these fish swimming on the right side, their left sides being uppermost.

This is apparent on seeing any of these fishes being carved on the table, when it is evident, from the way the bones lie, that what looks like the back of the fish is really one of the sides.

The obliquity in the mouths of flat fishes is accounted for in the folk-lore of the Isle of Man in the following tale (for which I am indebted to my brother William) :—

THE HERRING KING OF THE SEA.

As told in the Isle of Man.

It was in the old times the fish bethought themselves it was time for them to choose a king, for belike there might be disputes amongst them, and they had no deemster to say what was right. So the fish all gathered ; no doubt they would all put on their best appearance, and the Fluke, him that has the red spots on him, stayed at home to make himself pretty, putting on his red spots to see if he would be king, which took so much time, that when

he arrived at the place they were to meet, he was informed it was all over, and that the Herring was made king of the sea. Upon hearing this, the Fluke curled his mouth on one side with disdain, and said—"A simple fish like the Herring King of the sea! the naked Herring!" and his mouth has been on one side ever since.

It was from the beauty of the Herring that the deemsters have from that time sworn to execute the laws of this Isle "as indifferently as the Herring back-bone doth lie in the midst of the fish."

Of the flat fishes the PLAICE (*Platessa Vulgaris*) is the commonest species here, FLOUNDERS and DABS (*P. Flesus* and *P. Limanda*) next. The first-named species is taken abundantly in the Bay on long lines, but still more so in trawls; and Belfast market is thus generally well supplied with Plaice of excellent quality, for the Lough is regularly trawled by several boats belonging to Carrickfergus and Groomsport.

Of SOLES (*Solca Vulgaris*) there are none, and of TURBOT (*Pleuronectes Maximus*) almost none, obtained here. I have not heard of a Turbot being taken in the Bay for a very long time. This valuable fish is abundant off the Northern Coasts of Ireland, parts of the Counties of Derry and Donegal; and I never partook of it in such perfection as near Malin Head in the latter county. Turbot is generally the most highly esteemed of all the flat fishes for the table. His high appreciation of it was celebrated by the Rev. Sydney Smith in his reply declining, owing to a pre-engagement to a Mr. Horner, an invitation to dinner at the Fishmongers' Hall. For fear of spoiling the reply by omitting part of it, I quote it *in extenso*. He wrote—

"Much do I love
The monsters of the deep to eat ;
To see the rosy Salmon lying,
By smelts encircled, born for frying ;
And from the China boat to pour
On flaky Cod the flavoured shower.
Thee, above all, I most regard,
Flatter than Longman's flattest bard,
Much honour'd Turbot ! sore I grieve
Thee and thy dainty friends to leave.
Far from ye all, in snuggest corner,
I go to dine with little Horner ;
He who with philosophic eye
Sat brooding o'er his Christmas pie ;
Then, firm resolved, with either thumb
Tore forth the crust-enveloped plumb ;
And mad with youthful dreams of deathless fame,
Proclaimed the deathless glories of his name."

Another of the flat fishes, the BRILL (*Pleuronectes Rhombus*)—an excellent fish for the table—although common around the coast, is rare in the Bay itself. The only one that I saw taken here was a small one, which I got from a Holywood man on 4th May, 1880. He had caught it that morning on a long line.

Belfast market is supplied with Soles principally from Dublin and Fleetwood ; and of late years, since ice-packing has rendered fish carriage comparatively safe, from even more distant places, such as Grimsby.

Soles are favourite fish, and generally sell well. I read in Daniel's *Rural Sports* that in February, 1809, Soles were sold "on Brighton beach for nine shillings per pound for the London market."

Another extreme of price, but in the opposite direction, is mentioned of an allied species, the Plaice, by Mr. Yarrell. He says—"It is sometimes taken in almost

incredible numbers. So great a glut of Plaice occurred once in Billingsgate market that . . . hundreds of bushels remained unsold. Great quantities, averaging three pounds weight each, were sold at one penny per dozen." Even at this low price the supply was so far in excess of the demand that all did not find buyers, and, by order of the Lord Mayor, a large quantity was ultimately distributed among the poor.

CHAPTER XVII.

BOAT MANAGEMENT : ITS IMPORTANCE—CAUGHT OUT
IN A GALE.

But again we pressed on her, the gale still increasing ;
Not a squall now and then, but a squall without ceasing.

H. C. FOLKARD.

OPEN boats are the most convenient to fish from ; and it adds greatly to one's enjoyment to have the feeling of comfort and security which the knowledge of being in a good boat, with a competent man, conveys. For my own part, I have now been boating for so long, that I never feel the actual want of a boatman, although, as most of my fishing has been done in hired boats from Bangor, there generally has been a man with me.

Bangor visitors are fortunate in the place possessing several excellent roomy and safe boats, which are owned and sailed by experienced men, and which may be had for hire on moderate terms.

Some of these men are good fishermen as well as boatmen, and can show the amateur good sport ; but I would advise every amateur, if he wishes to fully enjoy sailing, and the fishing that one may have in connection with it, to thoroughly master both the theory and practice of boat-sailing and management, under all circumstances of wind and weather, as soon as possible. Till he does so, he will never be so completely independent as he should be ; and circumstances may arise in which it is quite necessary, for the safety of all, that there should be at least two good, competent hands on board. Such cases have occurred

more than once in my own experience ; and to illustrate my meaning, and to show the desirability of the amateur having a good knowledge of boat management, I shall mention one of these occasions.

In the course of the numerous boating, shooting, and fishing excursions which I have taken part in since my early boyhood, it is almost needless to say that all kinds of weather have been met with. Sometimes we got it hot enough ; but only twice would I speak of the weather encountered as amounting to a gale. The first of these was late in September, 1867, when we were caught out in a heavy nor'-easter. The second and more severe of the two was on 16th October, 1869. Looking back at this, as I have often done, I almost wonder how we got to land ; and our experience on that, as well as on many other less trying occasions, goes to confirm my opinion that most boating accidents occur either through ignorance or carelessness, not unfrequently both. Too much drink is, doubtless, also responsible for many accidents. Indeed I have often thought it a wonder, having regard to the ignorance displayed of the commonest principles of sailing, that more accidents do not happen. Their rarity surprises me more than their frequency.

Of late years I have consulted the barometer more frequently and carefully, when in the way of boating much, than I used to do ; and consider that by careful attention to it, and to the look of the weather, most risks attendant upon the latter may be avoided.

On the occasion already mentioned, and now about to be described, the warnings of the barometer were disregarded ; and we narrowly escaped paying the penalty of our temerity with our lives.

Between Tuesday the 12th, and Saturday the 16th October, the temperature fell some sixteen or eighteen

degrees ; and from the night of Thursday the 14th, till the morning of Saturday the 16th, the barometer fell nearly seven-tenths of an inch ; but as it left the mercury still above 29 in., I was less uneasy than if it had been a very low reading.. On the morning of the 16th it was a dead calm. Shortly after eleven o'clock, Mr. Mulholland, Mr. T. R. Walkington, Mr. A. J. M'Cullough, and I started from Bangor in John Scott's boat, Scott himself being our crew, and a boy, who had asked leave to come, accompanying us.

While we were going down in the train, a light air from S.W. to W. had sprung up. By the time we were starting, we had a moderate whole sail breeze from about N., with a clear sky and bright sun.

We tacked out to off Greypoint, when we put about, intending to come to near the new wreck off Greypoint (the "Reindeer"), and fish for Nowds. Standing down close hauled on the port tack, and the wind meantime having freshened, making a little short, cross sea, the lanyard of the weather-rigging suddenly gave way, and the mast would probably have gone over the side, but for my instantly throwing the boat's head into the wind, and getting her on the other tack, when Scott repaired the damage. This done, we hove round, and were making for our spot again, when we saw what looked like a heavy rain-squall gathering along the north shore ; but over Carrickfergus and the Heads it was so particularly dense that neither one nor other was visible, although the intermediate land about Kilroot was still quite distinct.

From the time we started, till the threatened approach of the squall attracted our attention, we had remarked a very curious appearance in the atmosphere that I had never previously observed except during the heat of summer, and seldom even then. There was a loom in the air which

gave some distant objects—for instance, the points (both inner and outer) of the Copeland Islands and the Blackhead—the appearance of being suspended between the sky and sea. What was still more remarkable was, that the hulls of two large vessels which we observed particularly—one at anchor inside of the Whitehead, and one in tow of a steamer a short distance outside—were quite invisible, although the vessels were near enough for us to see distinctly their smallest spars. Of the tug steamer we could see the funnel and mast, and just the tops of her paddle-boxes ; but her hull was out of sight.

A row of one-story whitewashed cottages near Whitehead harbour had been magnified by the haze into about treble its height and double its length, till it had the appearance of a great square sheet of dazzling whiteness suspended in the air. I wish to record the appearance of these atmospheric phenomena, which, taken in connection with the low temperature and what followed, I considered very strange and interesting.

To resume, however, about the squall : the thickness and gloom increased, till it spread all along the County Antrim shore, and approached us gradually. Not wishing to run any risk, we cast anchor when we had still time enough to spare, and had made all snug before the squall struck us. It did not commence with the severity I had anticipated ; but, still increasing in violence, in a few minutes it was blowing very hard, accompanied with cold and heavy rain. After about ten minutes of this the rain blew over, but the wind continued very strong. We had a consultation about what was to be done ; and, thinking at first that it was only a squall, and seeing some appearance of returning sunshine, we had almost determined to try the fishing a little longer, when one of us, observing a heavy cloud gathering over the Heads again, said—"You'll agree with

me, we'll go ashore ; for if it goes on this way, or gets worse, we are better there than here ; and if it clear up, we can come out again." This proposition being at once agreed to, the next word was, " John, up anchor ! " " Yes, sir," was the ready reply ; and when the anchor was " up and down," the boy took charge of it, and Scott set the foresail, I heading the boat towards Bangor, the northerly wind coming, from our position off Crawfordsburn, about on our port quarter. We got on pretty well at first, and I got Scott to set the jib. This helped us considerably ; but as the wind increased every moment, and every moment also made the seas heavier and heavier, and drove them curling over quicker than we were driving, it became very awkward, as we had either to drive as quick as the sea—and we could not safely carry any more sail—or run the risk of being pooped, and, as a consequence, swamped and sunk also. Although we could not, with any regard to prudence, carry more sail, it became almost a matter of necessity to do so ; and, of the two evils, choosing what seemed the least, I desired Scott to take down the foresail and set the mainsail, which he had already close reefed. When the boat got the weight of the mainsail, I felt her almost bound under us, and sway from side to side under the fearful after-pressure. My three friends were lined along the weather quarter, I steering, and occasionally keeping part of a breaking wave out of her with my back ; the boy was baling out, and Scott stood with the main haulyards in his hands, watching the waves, that momentarily got worse, and which we had to try and "dodge," and another heavy squall, driving down quickly on us through the gale, which was now raging all around. Scott and I exchanging rapid glances, both watched the approach of the squall ; and I gladly pay a tribute to his extreme care and attention, his readiness and

intelligence, and his excellent management. Before I could speak it, he anticipated the order, "Take the mainsail off her," and he had it down as soon as I had the mainsheet in; neither a moment too soon, for, in the first violence of the puff, I had even to spill the wind out of the jib. As soon as possible, we reset the mainsail. The sea was very heavy now, and we had two other risks to guard against. As the boat's stern rose on a following wave, I was sometimes afraid of driving her bows under, and then Scott would case her with the main peak; and we had also to fear the danger of her broaching to in so much broken water, when the rudder had lost its usual power over her. Running past Wilson's Point into Bangor Bay, we had to take the mainsail off her again in another squall. Once in the middle of the bay, we ran for the first time dead before the wind and sea, and, when lifted on the crest of a wave, would shoot perhaps twenty or thirty yards with incredible velocity. On the quay there was a large crowd to welcome us in, and many willing hands to help us; and so ended the wildest sail I ever had, or hope ever to have.

This gale was so severe that many windows were blown in, and chimneys, slates, and trees blown down; yet a good boat, well handled, brought us all safe ashore; while any mismanagement or mistake must inevitably have sent us to the bottom. On this occasion one hand could not have brought the boat in.

CHAPTER XVIII.

COD—LING—CONGER EELS—WHITING—THE WRASSES—MULLET—
 BASSE—SOME OF THE SMALLER FISHES—THE JOHN DORY—
 KING-FISH—SUN-FISH—STURGEON—THE ANGLER, OR SEA
 DEVIL—SALMON—THE HERRING—CONCLUSION.

I long to feel the steady gale
 That fills the broad distended sail—

I yearn for that brisk spray—I yearn
 To feel the breeze from stem to stern
 Uplift the plunging keel.

T. HOOD.

CODLINGS, the young of the COMMON COD (*Morrhua Vulgaris*), and Cod-fish themselves, are abundant in the Lough, and are largely taken by both hand-lines and long lines. This fishery is regularly followed by Carrickfergus, Donaghadee, and Groomsport men in the winter season, and Belfast market is kept well supplied by them with fine fish.

On Carrick Bank, off Holywood, and in other suitable localities, excellent Codling-fishing may sometimes be obtained. Codlings give good sport fished for at anchor, as well as when sailing very slowly over the ground.

The LING (*Lota Molva*) is also captured here, and sometimes of considerable size, up to 50 lbs., as I am informed by Mr. Meenan. In October, 1868, I caught one 42 lbs. weight near the wreck of the "Prude." They have not been exactly numerous in the Lough in my time, and are even less so now, I think, than a few years ago. In one hundred fishings during the ten years from 1869 to 1878, I have only recorded the capture of

sixteen Ling—seven in the year 1869, three of them in one day, 19th June; only one in 1877, and none at all in 1878. These fish seem to be very voracious. Some years ago, on our way out to the fishing-ground, we happened to pass near where my friend the late Mr. John Charley was fishing, and he hailed us to say that there were some big fish about, and that one had just taken away a hook, snood, and chopstick of his. We went on about a mile and commenced fishing, one of our first captures being a good-sized Piked Dog-fish, which we killed, marked, and threw overboard. Shortly after I caught a large Ling, and saw Mr. Charley's lost hook and chopstick, the former sticking in and the latter hanging from its mouth. When removing my own hook from the Ling's jaw I saw something in its throat, which further examination proved to be the tail of a Dog-fish. On cutting the Ling open, we found this to be the identical Pikey Dog that we had killed and thrown overboard a few minutes previously. So this Ling, having taken away the hook and chopstick first mentioned, and conveyed them about a mile, had swallowed a whole Dog-fish, two feet two inches long, his own length being four feet one inch, and after that had taken my hook!

CONGER EELS (*Conger Vulgaris*) were sometimes very abundant about the wrecks; and their capture, owing to their strength, ferocity, and extraordinary tenacity of life, is attended with considerable excitement. The largest number ever captured by us in one day was thirty-six; this on 19th June, 1869, at the wreck of the "Monteith," as already mentioned. Their capture was spread over almost the entire day. Very different was one evening (18th July, 1867) when we caught nineteen inside of an hour and a-half; and again, on 25th August, 1869, when in a very short time, on the wreck of the "City of Lucknow," my

friends Mr. Robert H. Bland and Mr. J. W. Valentine, with myself, caught thirty-three, and only stopped fishing when all our lines and both our gaffs were broken, and we had no longer anything to fish them with. On the two last occasions the Eels were caught within such a short period that they were all alive at the same time, and an extraordinary sight I must say they did present, the boatman endeavouring to keep them what he called "in rotation"—by which, I think, he meant in order—up in the bows, and the Congers apparently determined to keep us company in the stern, and continually crawling or sliding down towards us, where we were glad enough to keep our feet up on the boat's seats to be out of their way.

Some of the fishermen here believe that there are two kinds of Congers—the common kind, and a darker coloured variety, which they call Black Eels, and which they believe to be more active and voracious, and stronger in proportion to their size, than the usual run of them. On the occasion of the evening's fishing at the "Lucknow" just mentioned, I was fishing a Conger line with a single large hook. Pulling up a fish, I felt a sudden accession of weight, and, on getting my Eel to the surface, to my surprise I saw two. The boatman gaffed one of them, when we found it was only holding on to the other hooked Eel by the throat, and we supposed had attacked the latter to take its food from it. Both Eels were secured, and the one that had attacked the other was of the black variety; but I could see no difference except that of colour.

The WHITING (*Merlangus Vulgaris*) varies a good deal in its numbers here in different years. They were tolerably abundant in August and September, 1869, when I caught thirty-nine of them; but in the years 1874 and 1877, in sixteen and fifteen fishings respectively, I caught none at all. On some parts of the

English coast, Whittings are exceedingly abundant. Off Scarborough I have had excellent sport at them, where twenty or thirty dozen may sometimes be caught in a day without difficulty.

Several species of the Wrasses, or Rock-fish (*Labridæ*), locally called Bavin, are found here in localities suitable to their habits. The BALLAN WRASSE (*Labrus Balanus*) is the commonest. They are coarse, ugly fish, and of no use except for baiting lobster or buckie-pots with. That beautifully marked and coloured species the BLUE STRIPED or COOK WRASSE (*L. Variegatus*) is occasionally but rarely obtained here. On 1st August, 1868, fishing between Muck Island and the land, with Mr. J. W. Valentine, we caught no less than four of them. I have not seen one since.

Another fish that is sometimes taken here is the BASSE (*Labrax Lupus*), which is, however, rather rare. I have only noticed the capture of four of them in the last ten or twelve years; these were taken by Holywood fishermen on long lines. One was on 29th September, 1879. It was 21 inches long and 4 lbs. weight. The last two were on 17th and 22nd May, 1880. These fish are here erroneously called Mullet, or Bass Mullet. They are handsome, well-made fish, and very good for the table.

The MULLET (*Mugil Chelo*) is quite abundant, and is often captured in considerable numbers in nets on the banks that border both sides of the upper end of the Bay towards Belfast. They are sometimes very abundant, even in the timber ponds quite close to the town. These fish, as a rule, do not take a bait, and are therefore not often angled for; but are sometimes shot as they lie basking near the surface of the water. On 29th May, 1880, there was an abundant supply of very fine Mullet in Belfast market; all captured near the town.

Of some of the small fish that inhabit rocky pools on the shore, the SPOTTED GUNNEL, or BUTTER-FISH (*Blennius Gunnellus*), and the MILLER'S THUMB, are found here. The latter is the local name for the Father Lasher, or Long Spined Cottus (*Cottus Bubalis*). The former makes a good bait for Lythe. The family that the locally-called Miller's Thumb belongs to has other representatives here, the only one of which, however, that I can venture to name being the SEA SCORPION (*Cottus Gobius*), locally called Sting-fish. I have sometimes caught a Sting-fish, presumably *Cottus Scorpius*, of a bright blue colour. They are rare here.

SAND EELS are common in Ballyholme Bay, and other localities suitable to their habits. They also make excellent baits for large Lythe and Stanlocks, when fishing with float lines at anchor in a tide-way. I am sure Mr. J. C. Wilcocks does not at all over-estimate the value of the living Sand Eel as bait for these fish in the admirable description of them, and instructions how to use them, given in his valuable manual *The Sea Fisherman*, which book I recommend to amateurs as by far the best I have met with in all that relates to its subject.

Of other rare fish that have come under my notice as occurring in this lough, there remain to be mentioned the THREE-BEARDED ROCKLING (*Motella Tricirrata*), an example of which I procured at Holywood, near which place it had been taken on a long line early in the morning of 3rd May, 1875. It was 13 inches long.

A specimen of the ANGLESEY MORRIS (*Leptocephalus Morrisii*) was thus described by me in a letter to the local papers at the time of its occurrence :—

"28th June, 1877.—I wish to record in your columns the recent capture, at Bangor, of a fish that is very rare in these waters—viz., the Anglesey Morris. The fish was

ejected alive, and apparently uninjured, from the mouth of a Lythe (*Merlangus Pollachius*), shortly after the capture of the latter, and was given to me by Mr. Frank MacMahon, a well-known and intelligent Bangor boatman.

"The fish is about $4\frac{1}{2}$ inches long; the body is flattened, and looks, when fresh, more like a strip of fine opal-coloured satin ribbon than anything else I can think of. The eyes are prominent and very beautiful, the iris silvery, and the pupil black. The body is so transparent that one can read ordinary newspaper type through it. On this point the late Dr. Robert Ball, of Dublin, said that, when swimming, the body of the fish was so transparent that the eyes alone were visible.

"The occasional capture of the fish in Ireland has been recorded by the gentleman just named, by the late William Thompson, Esq., and the late Dr. J. L. Drummond, of Belfast. The last-named naturalist recorded the capture of one (Thompson's *Natural History of Ireland*, vol. iv.) at Bangor in June, 1831, and I find no record of its capture in this neighbourhood since."

I have only once seen a JOHN DORY (*Zeus Faber*), which was captured here. The date of its capture is recorded by Thompson as 1st July, 1848. Some allege this to have been the fish out of the mouth of which St. Peter took the piece of tribute money, and that the marks of the Saint's finger and thumb are still to be seen on its sides.

Quin, celebrated about the middle of the last century both as an actor and an epicure, is related by Colonel Montagu to have undertaken a journey from Bath to Plymouth "on purpose to eat John Dory in the highest perfection, not only from procuring it fresh, but with the additional advantage of having it boiled in sea-water."

This fish does not come regularly to Belfast market;

those that are seen here generally come from Co. Donegal—I suppose Greencastle. Mr. Thompson says they are much more common about Portrush than here.

A near relative of the Dory, the gorgeously-coloured OPAH, or KING-FISH (*Zeus Luna*), has once been obtained here, and in a very few other recorded instances in Ireland. I remember seeing the fish when fresh, but must again depend on Thompson for the date, which he has recorded as 2nd July, 1850.

The SUN-FISH (*Orthogoriscus Mola*), although rare, is more common than the last-mentioned species; and during the last thirty years I may have seen perhaps three or four of them that were captured in the Bay. The last, so far as I can recollect, was taken in the summer of 1874, by young Jack MacMahon of Bangor, between that place and Carrickfergus. It was afterwards shown for a small charge in Bangor, its exhibitors adding much to its already curious appearance by ingeniously inserting a horse's tail under the tail of the fish, and leading most of those that saw it to think that it was really a fish with a tail like a horse!

On the 6th September, 1871, some Groomsport fishermen caught a Sun-fish and brought it to Belfast for exhibition. It seemed about 3 cwt., and in shape was intermediate between the two species of the fish figured in Yarrell.

Mr. J. W. Valentine told me that, having been out fishing from Giant's Causeway on 9th and 11th September, the men there told him they had seen a large number of Sun-fish floating on the surface of the water at sea; some of them being, as the fishermen expressed it, "about the size of a 4 cwt. pig."

This, the true Sun-fish, is not to be confounded with the so-called Sun-fish, or Basking Shark (*Squalus Maximus*),

a very large fish, sometimes attaining a length of thirty-six feet, and one of the largest of the true fishes.

A full and interesting account of Sun-fishing off the West Coast is given by Wallop Brabazon, Esq., in his work on *The Deep Sea and Coast Fisheries of Ireland* (Dublin, 1848).

On the Sun-fish Bank, which lies about 100 miles west of Clew Bay, and also off Tory Island and the north-west coast of Donegal, the Basking Shark is very abundant in summer, "where the Skerries men have found them at times lying so thick over the ground where their Cod lines were set, that they would not venture to put to sea in their open boats to lift the Cod lines, for fear of the Sun-fish striking their boats. They have counted from sixty to one hundred basking in the sun of a morning, and they did not lift their lines until late in the day, when the fish had gone down."

The fish can be seen from a considerable distance, on account of their high dorsal fins showing three or four feet above the water when basking on the surface.

These fish seem to pursue a regular migration, from a more southern station along the West and past the North-west Coast of Ireland, towards the Scotch Islands, whence they proceed farther North.

The fish are taken by harpooning; and their livers, which weigh about two tons, and contain about six to eight barrels of oil, equal to the finest spermaceti, make the fish worth thirty-five to fifty pounds each. As many as five hundred have been killed in one season.

I can only call to mind seeing one STURGEON (*Acipenser Sturio*) that was taken near this; it was captured at Donaghadee. I remember it very well; for I not only saw it when fresh, but ate part of it cooked. Thompson records the date of this capture as 16th June, 1846.

Thompson mentions an instance of extraordinary tenacity of life, in a Sturgeon being alive thirty-six hours after its capture. I can readily believe this, for I recollect seeing, in June, 1863, in Hamburg, a number, perhaps thirty or forty, Sturgeons of six to seven feet long, which had been captured in the Elbe, some distance from the city, and they were all still alive. When I saw them, they were being transferred from a large boat to a cart, the mode of transfer being certainly none of the gentlest. A couple of men, each provided with a long, strong iron hook, with which they seized the fish, by sticking the hook into their flesh, dragged them singly over the boat's side and the intervening pavement, and pitched them, still quivering, into the cart.

The SEA DEVIL, or ANGLER (*Lophius Piscatorius*), locally called "Pllaich," seems to be tolerably abundant here. Mr. Thompson, who mentions several other names by which this fish is known in various places in this neighbourhood, says it "is common around the coast." Speaking of the present day, it can hardly be called exactly common; but it is sufficiently so to be known to most sea-side residents, as scarcely a summer passes that one or more are not seen cast up on the beach. In July, 1879, one was captured at the quays of Belfast, having been disabled by a blow from the propeller of a steamer. Another was captured in Prince's Dock in October, 1879, and exhibited in Belfast, being advertised as a "Sea Wolf;" and at the same time there were two lying dead on Ballyholme strand.

This fish is extraordinarily voracious, and when captured, as they occasionally are in trawls, are sometimes cut open for the sake of the contents of the stomach. Mr. Thompson records that on one occasion five good-sized Plaice were taken alive from the stomach of one. Another

had yielded seven Mullet, of from three to four lbs. weight each, three of which were alive. Wigeon have, in the same manner, sometimes been taken from them. These birds no doubt, when diving, have swum into the open mouth of the fish below; its practice being to remain quiet on the bottom, and tempt fishes within reach by dangling the appendages with which its head is provided in front of its capacious and dangerous jaws. I fancy this is the only fish that the Skates fall a prey to. From their shape few other fish could, and from their offensive and defensive weapons few others would, venture to attack them. The Rev. Mr. Black informed Mr. Thompson that he found Skates, sometimes a yard long, in these Anglers which he got trawling in Belfast Bay. The Anglers containing these, he says, "were remarkably large."

In M'Skimmin's *History of Carrickfergus* mention is made of this fish being obtained in the Bay; and he says "the mouth of some of them is nearly a yard wide."

I measured one that was lying on the shore near Cultra, on 21st March, 1880. It was four feet long, and its mouth a foot wide.

More valuable, as well as more attractive, than the hideous monsters last mentioned are the Sea Trout; some of which are to be found, among other places, in Crawfordsburn and Ballyholme Bays, where small streams discharge themselves into the Lough. These fish no doubt approach the fresh water for the purpose of spawning. They are taken in nets.

SALMON also are occasionally captured in the bay. On 31st December, 1879, a lad, out shooting on the banks off Tillysburn, saw two fish swimming up the channel by which the little stream that gives its name to this place discharges itself. He fired at one of them, and, although untouched by the shot, the concussion on the water was

sufficient to stun the fish, which was captured, and it turned out to be a fine Salmon.

The only fish of importance occurring regularly here, and not yet mentioned, is the HERRING, the numbers of which taken in Belfast Lough sink into insignificance compared with the great Scotch fisheries, or even with the Ardglass and other Irish fisheries. I have seen a large fleet of Herring-boats at Arklow, and more lately from Howth an important fishing seemed to be going on.

From a return issued, I learn that in the year 1878 the quantity of fish conveyed inland by railway from the principal fishing ports of the United Kingdom was—

From English Ports, 176,652 tons.

„	Scotch	„	32,792	„
„	Irish	„	6,894	„

Total, - 216,338

Downpatrick has 2,264 tons to its credit, which is entirely owing to the Ardglass Herring fishery.

In Belfast Lough the number of Herrings taken is so comparatively small that the fish are all used fresh. Those that come to market are the produce of drift-net fishing in the usual manner; but a good many are sometimes taken on hand lines, by a process locally known as “jigging.”

Having regard to the amount of capital invested and employment given, and in regard also to the enormous quantity of cheap and wholesome food obtained by them, the Herring fisheries of the United Kingdom are quite entitled to rank as a highly important national industry.

At Ardrishaig, and again at Stornoway, I have seen Herring fleets of about a thousand boats.

The Isle of Man possesses a very important fleet; and at Whitby I have seen a fleet of several hundred boats.

Mr. Henry Atkinson has informed me that, to get the fish quickly landed, and to avoid the risk of the cargo spoiling if kept too long at sea, some of the Wick boats take carrier pigeons to sea with them. In the event of the boats being becalmed, the pigeons are sent off to inform those on shore of the position of the fleet, and tugs are despatched to bring them in.

The Herring and Herring fisheries have been so fully treated of in works on the subject, that I make no further allusion to them now.

From the foregoing, it will be seen that Belfast Lough possesses a considerable variety and quantity of fish, the capture of which afford employment to the professional and enjoyment to the amateur.

Some anglers are apt to sneer at sea-fishing as a coarse and unscientific pursuit, requiring neither skill nor knowledge, and unworthy of being dignified by the name of "sport." But some of the gentlemen whom I have heard talking thus had never even tried it.

For my own part, I have no wish for better sport, or more enjoyment, than many days spent boating and fishing in the waters of our own Bay, some of the results and experiences of which I have now endeavoured to describe.

This volume has no claim to have even named all the birds and fishes that may be found in Belfast Lough ; but only mentions prominently those that are of frequent occurrence, naming some others that have come under my own notice at one time or other.

To convey an idea of the total and relative numbers of fish that may be taken by amateurs, as well as the periods of their appearance in the Bay, I have tabulated the results

of some years' fishings, and give the table at the end of the book.

Most of my fishing of late years has been done from Bangor ; float-line fishing at the wrecks for Lythe and Carp, and streaming, being what I preferred. This is the explanation of the comparatively small number, for instance, of Codling or Skate, and the larger numbers of the two other species just named, as well as of Congers, Mackerel, &c. The locality fished in makes all the difference as to the kinds, numbers, and size of fish taken ; so that my figures are no guide to the results that may be expected under other circumstances of time and place. The length of time occupied in these fishing excursions varied from about three hours up to sometimes, but rarely, a whole day. Six or seven hours would be perhaps an average.

Want of space precludes my mentioning some kindred matters to which otherwise allusion should have been made, and also prevents my giving any detailed descriptions of the kinds of tackle, &c., best suited to the various kinds of fish. On the latter point, Mr. Wilcocks' admirable book, *The Sea Fisherman*, gives the fullest information ; and in the "Egeria" basket, brought out by Messrs. Braddell & Son of Belfast, will be found every appliance necessary for ordinary sea-fishing.

TABLE

TABLE SHOWING THE KINDS AND NUMBER OF FISH CAUGHT IN BELFAST LOUGH BY THE AUTHOR, TOGETHER WITH THE DATES OF THEIR CAPTURE, IN THE FIVE YEARS 1869, '70, '76, '77, AND '78.

Date.	Plaice, Dabs, &c.	Cod and Codling.	Ling.	Congers.	Stanlocks.	Skate.	Piked Dog fish.	Spotted Dog fish.	Nowds.	Lythe.	Pout.	Whiting.	Power Cod.	Shark.	Sea Bream.	Mackerel.	Gar-fish.	Hake.	Total.
1869.																			
March 6	65	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	67
June 19	...	3	3	36	2	4	2	...	3	8	...	...	...	...	...	...	...	...	61
" 22	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	3
" 26	...	...	2	3	...	1	2	...	9	1	6	1	...	...	...	...	...	...	28
July 1	...	1	...	4	...	...	1	...	2	1	...	1	75	1	...	...	...	...	86
" 6	...	...	...	...	...	...	1	...	...	...	...	...	...	...	1	...	...	...	2
" 8	...	1	1	...	...	...	2	...	6	...	...	...	...	...	4	...	...	...	14
" 10	...	...	...	...	...	4	...	...	...	5	...	...	10	...	4	1	...	...	24
" 17	...	...	...	...	...	...	...	...	56	...	...	...	...	...	...	2	...	...	58
" 24	...	...	...	13	...	...	...	...	6	10	...	...	...	...	...	9	...	...	38
" 26	...	2	...	...	...	...	...	...	9	...	...	...	6	...	...	1	...	...	18
" 28	...	1	...	...	...	...	...	...	2	...	...	1	...	...	1	...	...	...	5
" 31	...	...	...	6	...	...	...	...	9	22	...	...	90	...	...	1	...	...	128
Aug. 4	...	1	...	...	1	1	...	...	1	2	...	...	6	...	39	7	...	...	56
" 5	...	...	...	1	1	1	...	...	6	5	...	...	90	...	...	12	...	...	116
" 7	...	...	...	2	...	...	...	...	...	4	...	...	40	...	15	6	...	...	67
" 14	...	1	...	...	2	4	...	1	12	1	...	...	...	...	...	36	...	...	57
" 16	...	...	...	3	...	...	...	...	...	...	...	...	12	...	27	12	...	...	54
" 17	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
" 19	...	1	...	4	5	1	...	...	4	4	...	...	8	...	...	30	...	...	57
" 21	1	1	1	2	2	1	...	1	4	1	...	...	20	...	...	136	1	...	171
" 25	...	...	...	33	...	...	...	...	...	2	...	...	...	...	...	47	...	...	82
" 28	...	...	...	2	...	3	...	...	...	2	...	...	10	...	54	96	...	...	167
Sept. 1	...	...	...	2	...	...	...	...	13	5	...	...	...	1	...	4	...	...	25
" 11	...	...	...	...	...	...	...	...	20	...	...	...	...	...	...	...	...	...	60
" 25	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	40	...	...	...
Total,	70	15	7	111	12	20	8	2	151	84	6	3	367	2	145	440	1	...	1444
1870.																			
July 23	1	...	...	9	1	...	...	...	...	13	...	...	...	...	1	...	...	...	25
" 28	...	...	...	...	...	...	...	...	...	1	...	2	100	...	3	1	...	...	107
Aug. 1	...	...	...	...	...	...	...	...	...	7	...	...	...	...	...	...	...	...	7
" 3	...	...	...	...	...	...	...	...	...	12	...	...	...	...	...	...	...	...	12
" 6	...	2	...	...	...	...	...	...	...	1	7	...	...	...	19	...	...	...	29
" 10	...	...	...	1	1	...	...	...	5	2	...	...	75	...	33	...	...	...	117
" 11	...	1	...	1	...	...	...	...	2	2	...	2	...	...	20	...	...	...	26
" 13	...	1	...	...	...	...	...	...	...	1	...	...	70	...	1	...	...	...	73
" 17	...	...	...	1	...	1	...	...	6	1	...	3	...	...	45	7	...	...	64
" 20	...	...	...	1	...	...	3	...	8	3	...	9	25	...	31	3	...	...	83
" 23	...	...	...	2	...	1	...	...	7	1	...	12	50	...	28	1	...	...	102
" 27	...	...	...	...	...	...	...	...	8	2	...	1	...	...	53	...	1	...	65
Sept. 3	6	...	...	...	...	...	...	...	6	3	...	4	...	...	4	10	...	...	33
" 7	...	...	...	2	...	1	...	...	8	4	...	6	10	...	...	...	...	...	31
" 17	...	1	...	9	1	3	1	...	18	7	...	2	4	...	...	144	...	...	190
" 28	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	354	...	...	358
Total,	7	3	2	26	3	6	4	1	70	66	...	41	334	...	238	520	...	1	1322
1876.																			
May 20	...	...	...	...	...	5	...	...	...	7	...	...	...	...	...	...	...	...	12
June 10	...	1	...	...	...	1	...	...	1	2	...	...	1	...	...	...	...	...	7
" 21	...	1	2	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	4
July 1	...	3	1	8	...	1	...	...	...	8	2	...	11	...	...	...	...	...	34
" 6	1	5	1	...	...	...	...	...	7	...	...	...	6	...	9	...	...	...	29
" 8	2	6	...	1	...	1	3	1	88	...	4	...	20	...	17	...	...	...	143
" 19	...	...	...	2	...	...	3	...	38	...	...	1	10	...	1	...	...	...	55
" 22	...	...	...	...	...	...	...	...	9	...	...	...	11	...	12	...	...	...	32
Aug. 5	...	...	...	...	...	...	2	...	161	...	...	1	...	...	...	1	...	...	165
" 7	...	...	...	...	...	...	1	...	68	...	...	...	...	...	...	2	...	...	71
" 12	...	1	...	...	...	1	15	3	68	...	...	5	...	...	...	...	...	...	93
" 19	...	...	...	...	...	...	...	...	1	...	...	...	12	...	33	2	...	...	48
Total,	3	16	5	11	...	4	31	4	441	17	6	7	71	...	72	5	...	...	693

TABLE—CONTINUED.

257

Date.	Plaice, Dabs, &c.	Cod and Codling.	Ling.	Congers.	Stanlocks.	Skate.	Piked Dog-fish.	Spotted Dog-fish.	Nowds.	Lythe.	Pout.	Whiting.	Power Cod.	Shark.	Sea Bream.	Mackerel.	Gar-fish.	Hake.	Total.
1877.																			
May 23	...	8	...	1	...	...	...	...	...	13	...	...	...	...	...	...	...	...	22
" 26	...	3	...	1	...	...	1	...	1	14	...	...	...	...	...	...	...	...	20
June 9	14	11	...	3	1	...	1	...	3	2	1	...	1	1	...	...	...	...	38
" 14	...	9	...	...	...	...	...	...	...	5	...	...	10	...	...	...	...	...	24
" 26	12	3	...	2	...	3	...	...	13	...	...	...	10	...	1	...	...	...	44
" 28	...	4	...	1	...	...	...	...	...	4	...	...	6	...	...	...	...	...	15
" 30	5	3	...	13	...	...	1	...	18	2	...	...	12	...	11	...	...	...	65
July 7	...	1	...	4	...	...	...	...	2	11	...	...	25	...	2	...	...	...	45
" 14	4	...	...	1	...	...	5	...	8	1	...	...	30	...	...	...	...	...	49
" 21	4	1	...	...	...	2	1	...	49	...	...	...	...	2	...	...	...	...	60
" 27	...	...	...	5	...	...	...	...	...	1	...	...	10	...	11	...	...	...	28
Aug. 4	5	1	1	1	1	2	...	...	115	1	...	...	...	...	1	...	...	...	128
" 11	9	3	...	3	...	...	1	...	9	1	...	...	13	...	22	...	...	...	61
" 25	...	...	...	...	...	...	...	...	6	...	...	...	...	...	...	14	...	...	20
Oct. 1	...	...	...	...	...	...	...	...	8	...	...	...	...	...	...	13	...	...	21
Total,	53	48	1	36	2	7	10	...	232	55	1	...	117	3	48	27	...	...	640
1878.																			
June 29	...	1	...	...	...	...	...	...	6	8	...	...	1	...	7	...	...	...	23
July 6	...	...	...	2	...	2	...	...	9	...	...	...	1	...	...	...	...	...	14
" 13	...	...	...	1	...	...	...	1	9	...	...	...	1	...	4	...	...	...	16
" 20	...	...	...	...	3	7	...	...	42	...	...	...	...	...	...	...	...	...	52
" 27	...	1	...	1	...	...	...	...	48	...	...	...	1	1	16	...	...	...	68
Aug. 7	...	...	...	...	...	2	...	...	10	...	4	...	2	...	25	...	...	...	43
" 10	...	...	3	...	...	2	...	...	3	...	...	...	14	1	33	4	...	...	60
" 15	...	1	...	...	6	2	1	...	16	...	...	...	...	...	...	...	...	...	26
" 17	...	1	...	...	...	5	...	...	14	2	...	...	2	1	4	...	...	...	29
" 20	...	...	...	...	...	2	...	...	7	...	...	...	...	...	20	...	...	...	29
" 21	...	...	...	...	...	...	...	...	...	1	...	1	16	...	22	...	...	...	40
" 27	...	...	...	...	...	...	...	...	1	...	...	...	34	...	...	...	...	...	35
" 29	...	...	...	...	...	8	...	...	24	...	...	...	...	...	...	25	...	...	57
Sept. 7	...	...	...	...	...	...	...	...	26	...	...	...	...	...	...	91	...	...	117
" 14	...	...	...	...	...	...	...	...	6	...	...	...	...	...	...	42	...	...	48
Total,	...	4	...	7	...	11	28	2	221	11	4	1	72	3	115	178	...	...	657

SUMMARY.

Date.	Plaice, Dabs, &c.	Cod and Codling.	Ling.	Congers.	Stanlocks.	Skate.	Piked Dog-fish.	Spotted Dog-fish.	Nowds.	Lythe.	Pout.	Whiting.	Power Cod.	Shark.	Sea Bream.	Mackerel.	Gar-fish.	Hake.	Total.
1869	70	15	7	111	12	20	8	2	151	84	6	3	367	2	145	440	1	...	1444
1870	7	3	2	26	3	6	4	1	70	66	...	41	334	...	238	520	...	1	1322
1876	3	16	5	11	...	4	31	4	441	17	6	7	71	...	72	5	...	...	693
1877	53	48	1	36	2	7	10	...	232	55	1	...	117	3	48	27	...	...	640
1878	...	4	...	7	...	11	28	2	221	11	4	1	72	3	115	178	...	...	657
Tot.	133	86	15	191	17	48	81	9	1115	233	17	52	961	8	618	1170	1	1	4756



I N D E X.

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NOTE.—The figures in bold type indicate the principal reference to any bird or fish where more than one reference is given.

- | | |
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